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# Adapting Nutrition Work to a Community

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# Adapting Nutrition Work to a Community

By

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## *Foreword*

THE experience of the New York Association for Improving the Condition of the Poor has disclosed with increasing clearness the fact that ill health is indissolubly linked up with and is in a very large percentage of cases the forerunner of poverty. Serious and continued interference with the health stability of a family is almost certain to lead to an interference with their economic stability.

It has also been increasingly clear from general experience that good nutrition is very definitely correlated with good health and that defective nutrition is equally definitely correlated with both ill health and poverty. The Association has, therefore, conceived it as a part of its definite function to deal with the problem of good nutrition. It secured, for example, as long ago as 1864, legislation looking toward a purer milk supply. In 1906 it established the New York Milk Committee which rendered important service in connection with nutrition, and since then it has devoted increasing attention to good nutrition.

Some six years ago the Association opened Mulberry Health Center in the heart of a congested Italian district in New York City. Since that date it has endeavored by intensive methods to discover what effects can be secured in changing the nutritional habits of the people in a given district. This report describes the methods used and gives the results of these efforts with the purpose of making them available to others who are working on the same problem.

Bailey B. Burritt,
General Director.

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# Adapting Nutrition Work to a Community

## *Introduction*

IT IS generally recognized that nutrition should be a part of every public health activity, but before any method for any particular locality can be decided upon the following questions must be asked:

1. *What nutrition work is being done and what other nutrition work should be done in the district.*

Infants, toddlers, school children and adults all need nutritional service. There may be already one or several Child Welfare stations for children under school age; there may be instruction in the schools and aid for adults at either of the above places or through other agencies, or there may be no nutritional care for any of these groups. One should first determine what groups are already best provided for and where emphasis is most needed before undertaking work in any section.

2. *What is the prevailing nationality, and what is their social and educational background?*

The approach in any given community will probably depend largely on the social and educational status of the people. Some parents may be ready for general educational work at once and assume responsibility for both the prevention and cure of malnutrition.

Some equally capable of assuming responsibility, but more skeptical as to the need, may have to be convinced through demonstrations for which the Nutrition Class is well adapted. Others must be shown through individual attention that their conditions are not unusual and impossible.

3. *Are preventive or curative aspects of nutrition to be emphasized, or both?*

Malnutrition may be prevented through group work or general educational methods, but in general must be cured by individual attention. Programs for the two phases of the work will differ considerably. Theoretically a curative program will be unnecessary eventually where preventive measures are taken, but usually people must be shown the improvement resulting from correction of bad habits before they will take the trouble to prevent their formation.

4. *Shall the work be conducted in the interest of the pre-school child, the school child, the adult, or for everyone in the community?*

Hand in hand with this question is one relative to the amount of money available for the work. If plenty of funds are at hand there is probably little doubt that the ideal program should cover all groups of individuals, or supplement any lack by other agencies, but very few organizations feel that they can launch a program extensive enough to meet every age group except through a general educational plan.

The work with adults is difficult and time-consuming. Poor nutrition has often caused pathological conditions which are, in the majority of cases, beyond help through diet. Adults see little

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reason for changing habits that have "kept them alive," so that it is doubtful whether adults are the most profitable group with which to work.

Perhaps, in return for the time and money spent, more immediate results may be obtained from the work with school children than with any other group, but in many cities the schools or Board of Health are responsible for the health of the school child. Where such responsibility already exists it does not seem wise for a private agency to enter the field. These public agencies may, however, welcome additional help to enable them to put over policies beyond their means.

The pre-school child has been generally neglected, and for this reason has increased the work necessary with the school child. This is an especially important age group for preventive work, as work with the pre-school child should theoretically prevent the malnourished school child of the future.

5. *What method shall be used?*

The approach may be through small groups, through intensive work in individual families, or through general educational work with large groups, or a combination of any two or all three.

The small group may be used with school children or intelligent mothers of pre-school children. It is useful in either a curative or a preventive program. There are arguments for and against nutrition work exclusively in groups.

### ARGUMENTS FOR THE GROUP METHOD

One small group frequently arouses the interest of a whole neighborhood by providing a graphic illustration.

A large number may be reached in a short time.

The class spirit often gives a child courage to venture on new habits.

Because cooperation is frequently secured more quickly, the class sometimes reduces the number of home visits required.

### ARGUMENTS AGAINST THE GROUP METHOD

Home conditions cannot be as completely corrected—the work is not as thorough.

The class spirit which prompts some good habit formation is removed when the class is over and children are apt to return to old habits.

Too many children are living under conditions which they are powerless to correct and about which the parents are indifferent.

In such cases home visits are necessary. Home visits in addition to the class period and preparation for it often take more time than home visits alone.

The pre-school child himself can be taught comparatively little in groups. The intensive work in the home could often be done in the time it takes to get mothers to come to class.

Each worker has to decide for herself whether her conditions are favorable for group work.

Intensive work is always a necessary part of the curative program in cases where individual problems exist or where the cooperation of the parents is difficult to obtain.

General educational work may be used most effectively as a preventive measure, though doubtless much malnutrition may be cured thereby too.

# The Nutrition Program at the Mulberry Health Center

## *Extent and Seriousness of Malnutrition*

OF 2,181 apparently well children examined in the medical clinics at Mulberry Health Center, 656, or 30 per cent, were diagnosed as malnourished. Since much of the sickness and lowered vitality in later life is the result of poor nutrition, as physicians have frequently stated, the importance of providing educational guidance in nutrition as well as providing attention for the correction of physical defects is of tremendous importance.

If these children were in danger from fire or industrial accidents, every safety device and preventive measure known would be urged to protect them. Although the results from malnutrition* are much slower, often much more indirect and much less dramatic than those from fire or accidents, they are even more deplorable because of the larger number affected and the lingering misery resulting.

Many a wage earner is unable to increase his income to the safety level because of health conditions due to poor nutrition. Too many children who apparently show no signs of disease or malnutrition are allowed to drift into the wage earning period with only a part of their rightful earning capacity developed. Thus handicapped there is danger that they may add to the responsibility of the health and social agencies.

Malnutrition, then, is not only a health problem, it is also a social problem. Social agencies spend thousands of dollars each year caring for the victims of malnutrition. In all probability much of this burden might have been prevented had the people been helped to build up a better nutritional condition in childhood.

Malnutrition concerns more than the individual or the home in which it occurs. It affects the whole country by reducing the economic production of the individual and thereby increasing the cost of living. It is fundamental in health and therefore essential in any constructive health or social welfare program.

Malnutrition is, then, a national problem. The question should not be *"Can we afford it?"* but rather *"Can we afford to be without it?"*

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* In this report malnutrition is referred to, not as a condition due to insufficient food but a condition brought about through either the constant use of improperly chosen food or the inability of the body to make use of the food eaten because of insufficient air, rest, sunshine, or physical defects. Also the basis for judging malnutrition is the general development and physical condition, not weight and height alone.

# General Summary of the Work

### *Nutrition Fundamental in Public Health Work*

BECAUSE the Association has recognized that malnutrition is one of the fundamental factors in preventive health work, educational nutrition work was made an essential factor of the intensive health demonstration at the Mulberry Health Center at the very beginning.

Mulberry Health Center is in the midst of people who do not congregate in large groups, who do not wander far from their own doors, do not speak the English language to any very great extent, and where there is very little communication. The relation of food to health and the need of fresh air and sunshine were ideas practically unknown to these people before the nurses and nutrition people went among them. Most of the adults have come from a country where they unconsciously had received a good diet, fresh air and sunshine, so that they have been spared the afflictions which neglect has brought upon the children under less favorable conditions.

### *Aim of the Work*

In this district the aim has been to make people see that children in the tenements need not be thin, pale and hollow-eyed because of circumstances, but that every boy and girl has a right to be healthy and strong with normal growth assured. Because the congested living conditions in this neighborhood are such a serious factor in malnutrition, there is little hope of developing a 100 per cent nutritional condition in all children, but there is a strong possibility of building up a better resistance against the factors that cannot be immediately remedied by teaching them to cultivate good food and health habits. Meanwhile if there is aroused a consciousness within the community, the people themselves will feel the importance of health and good nutrition, and take the responsibility for the nutrition of their children and the initiative in overcoming obstacles.

### *Development of the program*

The approach to such a group must be slow and through that part of it most readily reached and that will understand what is being done. In this district the school children taught in Nutrition Classes best served such a purpose. The school children helped to arouse interest and prepared the way for intensive work with the younger brothers and sisters in the homes.

After four and one-half years of this intensive work, in which 300 pre-school children were reached and about 300 additional children influenced per year, the people pretty generally know that good nutrition is important and possible if proper habits are established. Obviously, however, it would take many years to reach all the children individually, so that while the intensive work in this neighborhood seems to have been not only justified but necessary as a demonstration, it should be used as a background and a stepping stone in reaching larger numbers in a shorter time, and in the prevention of more malnutrition.

Throughout the four and one-half years of intensive work considerable work has been done with groups, but even so, the numbers that can be reached are limited. Every member of the community should get the message of good nutrition. With this aim in mind and with the children already helped as examples of what can be done, there is now being developed a general educational program to take the message as a preventive measure to the 32,000 people in the Mulberry Health Center. Each of the three following types of work will be considered separately:

1. Intensive
2. Group
3. General

# SECTION I.

## Intensive Work

*Organization*

THE intensive nutritional work has been in close cooperation with the nursing service. All physical defects were attended to by the nurse, but all children diagnosed by the physician as malnourished* (those needing nutritional care) and all women with first pregnancies were referred to the Nutrition Division for instruction in nutrition. If by a nutritional program for pre-natal women, and children through the first five or six years of life, malnutrition could be prevented, then the burden of curing malnutrition would be lifted from the schools, children would be able to make better use of the educational opportunities provided in school, the child's future possibilities for health strengthened, and many social problems prevented.

*General Summary of Accomplishment*

During the four and one-half years of intensive work intensive care was given to 1,018 malnutrition cases and in addition the habits of all the boys and girls in the families of these special malnutrition cases were influenced. With an average of 3.8 children per family, 2,578 children received attention. There is much evidence that the work spreads to other families in the neighborhood, but such results are hard to estimate. We frequently hear of mothers who give milk and cereals to their children because children under our care were advised to use these foods. One of the nutrition workers knocked at the wrong door by mistake one day and in a sunny corner of the room noticed a baby a few months old lying in a basket in the sun. Out of curiosity she asked the woman where she learned to protect her baby by a sun bath and the woman replied: "I heard you tell the woman next door that it would be good for her baby, and if it is good for her baby I thought it would be good for mine too."

Of the children given intensive care at least 52 per cent were brought into good physical condition as determined by the physician and the number of undesirable food and health habits was reduced 65.5 per cent.

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* In the physical examination, the basis for judging nutrition is the general development and physical condition, not weight and height alone. The children are diagnosed as well nourished or malnourished.

Even where the children did not recover from the subnormal condition, the majority were benefited and had a desire to be healthy. In only 20 per cent of the cases was there complete indifference with no cooperation. Cases closed were followed to see whether results were lasting. Of those re-examined 80 per cent have continued in their new-formed habits.

If 52 out of every 100 cases to whom instruction is given make satisfactory improvement, and 80 per cent of these are permanently helped, approximately 40 per cent of the total number instructed are definitely benefited. Then if instruction could be given to every child in the district, eventually the number of children now diagnosed as malnourished should be reduced 40 per cent, or from the present 30 per cent to 18 per cent.

But better still, in addition to immediate improvement there is being created a desire for and a pride in health not shown by gains in weight or physical examination. One boy who did not gain at the time of instruction because of insufficient income in the family became so impressed with the value of being in good condition that when he did gain—1½ years later—he wrote to the Health Center to tell the worker who had tried to help him that he was at last the proud possessor of the coveted extra pounds. While conditions for this boy—like many another—had been such that he could not gain at the time instruction was being given, he had caught the right spirit and seized the opportunity when it came.

A very tangible and reliable indication of results is obtained from the milk dealers and grocerymen in the neighborhood who are rejoicing at the increased sale of milk and oatmeal since the beginning of the intensive work. Books in which actual sales are recorded are shown as evidence of their statements. In one store where posters emphasizing the value of milk and oatmeal had been placed, the dealer said his sale of milk had increased in two weeks from 3 cans of loose milk and 30 quarts each of grade A milk and grade B milk a day to 5 cans of loose milk and 72 quarts each of grade A milk and grade B milk (a total increase of 84 quarts of bottled milk per day). Also he said his sale of oatmeal had increased from almost nothing to a case in these same two weeks.

### *Detailed Analysis of Results of Intensive Work*

In nutrition service a combination of home visits and group work seems to bring best results at least expense. The work at the Mulberry Health Center has included both. The following pages give a detailed analysis of the intensive home visiting.

Cases diagnosed as malnourished by the physician were referred to the nutrition worker. Before visiting the home, she became familiar with conditions through reading all available records of the other workers visiting the family. Sometimes her initial visits were made with the nurse, thus bringing about in the mind of the woman, who often speaks very little or no English, the important association of the nutrition worker's connection with the physical examination.

### *Factors Involved in the Nutrition Problem*

The first regular visit was always a "get-acquainted one" for the purpose of studying the various factors which may be functioning in that particular case of malnutrition. This information must include not only dietary habits, but the amount of rest and sleep, the accommodations for sleep, the possibilities for fresh air, both day and night, and whatever other home conditions make it impossible for the child to gain normally. The mother may be working or ill. She may be mentally depressed or mentally abnormal, so that she has neither the time nor the inclination to provide suitable conditions for the child's welfare. The emotional disturbances in the home may be such that gains in the timid, shrinking child are impossible. Child discipline has also to be reckoned with where mothers are helpless before the likes and dislikes of the children.

In the following table is a list of the chief problems encountered with the frequency of occurrence:

Chief Problems Involved in Malnutrition Cases in Mulberry District

(*From a Study of* 275 *Cases Closed from October* 1, 1921, *to October* 1, 1922)

| | |
|---|---|
| Relief necessary | in 27 families |
| Greater economy necessary | in 44 families |
| Readjustment of expenditures necessary | in 60 families |
| Instruction in preparation of food necessary | in 227 families |
| Help in the planning of meals necessary | in 198 families |
| Assistance in marketing given because strange foods were suggested | in 46 families |
| Special diets necessary | in 88 families |

In addition, the following problems were also encountered: indifference, women working and no one home to look after the children, men drinking, living conditions too congested, mother ill, and other less frequent causes were found.

At each weekly visit the worker through advice and persuasion helped and encouraged the mother to remedy such conditions as were remedial, seeking help from other agencies interested where necessary, or where relief was required, entirely turning the social problem involving relief over to a social worker for attention. It does not seem advisable for nutrition service to develop social service which deals primarily with relief when there are workers already in the field whose experience enables them to handle the situation much more efficiently.

### *Portable Scales*

Portable scales weighing up to 120 pounds* were used for weighing the pre-school children in the homes. A hammock hook provided by the Center was usually put up by the man in the family. The hook was left there permanently, but the worker carried with her the scales and a swing in which children sit while being weighed. The weighing was done in the homes because mothers with 3 or 4 small children find it difficult to get to the Center for the re-weighing of the children at stated intervals. Another advantage of the weighing in the homes was that other mothers in the same house often became curious, then interested, then co-operative in having their children weighed and examined. Finally their interest developed a desire to know how to bring under-nourished children up to normal, and they were persuaded to go to the Center for a physical examination. Sometimes a group of 5 or 6 mothers from one house were thus instructed at one time, even though only one child was registered at the Center.

The weight was graphically recorded on a small chart and by its use the worker explained why changes were taking place. This in connection with the scales helped the mother to associate gains or losses and the reasons for the same. Gains please and increase co-operation. Losses graphically expressed speak more forcefully than many words.

Home visits are valuable because they give a personal touch impossible through clinic contacts. Through these visits the worker learns the difficulties under which the mother has to work and can thus give the individual help needed. The nutrition worker is the ally of the physician in finding out conditions in the home that influence the nutrition of the child and in changing such things as are necessary to make it possible for the child to gain.

### *Special Clinics for Nutrition Cases*

Special clinic sessions were held weekly for the re-examination of the nutrition cases. Each case was re-examined once in three months or as much oftener as the physician thought necessary. The mothers brought their children to the clinic for these examinations.

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* The scales weigh accurately to 2 ounces, which is considered within the range of a day's variation. As a gain or loss of 2 ounces a week is not considered significant unless consistent week after week, this 2 ounces may be disregarded.

The scales themselves weigh from 5 to 6 pounds. A swing of strong material such as duck or canvas is essential for the child to sit in while being weighed.

At each of these clinic sessions the worker reported to the physician the physical conditions found in the homes of the children being examined, so that he had a better chance of judging the relation between cause and effect. Also in difficult cases a word of reproof from the physician often brought results where the nutrition worker had made little progress. The home visits were continued until the physician pronounced the child in good condition or until good habits were established, co-operation secured, or until it was felt that the child was improving so that it was only a matter of time for him to recover from the sub-normal condition.

### *Observation Period for Three Months*

Usually visits were temporarily discontinued at the end of three months of intensive work to see whether the children would be allowed to fall back into their old habits when not reminded weekly. In other words, a test was given to see whether the mother had been sufficiently impressed with the need of proper attention to the food and health habits of the children to enforce them. If at the end of this three months' probationary period the children had been allowed to revert to their old habits, visits were resumed for another three months. But if directions were being followed satisfactorily, visits were made only occasionally thereafter until the child was in good condition. This method not only helped the mother to feel her responsibility for the condition but enabled the worker to carry a larger number of cases.

### *"Follow-up" of Cases for 1 Year After Closing*

The condition of every pre-school child brought into good condition was followed for a year so that the permanency of results might be judged. This consisted in visiting the home once every three months for one year after the date of closing. At these visits the child was weighed and measured and watched as to his habits and the mother given such advice as she requested or needed. At the end of the year the child was re-examined by the physician. If the child was in good condition, the case was closed. If still malnourished, the case might or might not be reopened depending on the condition responsible for malnutrition.

### *General Routine*

The routine of the nutrition work with malnutrition cases, briefly summarized, is as follows:

1. Pre-school children were brought to the clinic by the nurse.
2. Children diagnosed as malnourished were referred to the Nutrition Bureau.

3. The cases were assigned to the worker responsible for the district in which the children live.
4. The worker visited the home, told the mother about the clinical findings, emphasized the dangers of malnutrition, found out what conditions in the home and what undesirable health habits of the child were making it impossible for him to gain, showed her interest and offered cooperation in helping the child to a normal state of nutrition.
5. Weekly visits followed for the purpose of instruction and encouragement in forming new habits. The child was weighed at each visit by means of portable scales.
   Only one point can be stressed at a time so that the results come slowly.
6. The visits continued as follows:
   (a) Very intensive work with weekly visits for the first three months. Re-examination by physician at the end of this period.
   (b) Observation for the next three months with not more than two short visits monthly. Re-examination by the physician at the end of this period.
   (c) Closing of the case or observation period continued. Children found to be in good nutrition were discharged but placed on a follow-up list; if a child was still malnourished the observation period was continued for another month or two, or until the child was in good condition; no case was carried for more than a year, however.
   (d) Each closed case was followed for a year with re-weighing and re-measuring every three months and a complete physical examination at the end of the year.

### *Records*

Careful records were kept of each case during the working period. These records were kept in the central file for the information of other workers interested in the case. Then for each case closed a summary card was made out which brought together all the facts about that particular case, thus facilitating the analysis and evaluation of results from time to time.

The summary card used is shown on pages 14 and 15.

### *Analysis of Results*

CASES CLOSED BY YEARS FROM JUNE, 1919, TO FEBRUARY, 1923

| | |
|---|---|
| June 1, 1918, to October 1, 1919 | 54* |
| October 1, 1919, to October 1, 1920 | 92* |
| October 1, 1920, to October 1, 1921 | 171 |
| October 1, 1921, to October 1, 1922 | 310 |
| October 1, 1922, to February 1, 1923 | 108 |
| *Total individual cases closed* | 735 |
| *Individuals now under care* | 283 |
| | 1,018 |

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* Figure somewhat incomplete because of incomplete records during first two years.

| Nutrition | | Co-op'n | Work Done | | FACTORS CONTRIBUTING TO POOR NUTRITION | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Housing | | | | | | | | | | | Mother | | | |
| Opened | Closed | | Home | Group | Crowded | Sleeping Condit'n | Sun-light | Phys. Defects | Health Habits | Poor Food | Low Income | Indif-ference | Ignor-ance | Discip-line | Emotional Disturb. | Dead | Sick | Working | Stair Climb. |
| | | | | | | | | | | | | | | | | | | | |

Name

Address

Descent

Date from

to

Age { Pre-school
School

Other children older

younger

Number visits to home

Number classes

Number months

Case No.

Reason for closing

| | When Referred | | | When Closed | | | | | For One Year Following Closing | | | | | At End of One Year | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Avg. for Ht. & Age | Deviation from Avg. | | Avg. for Ht. & Age | Expected Gain | Actual Gain | Per Cent of Expect. | 1 mo. | 3 mos. | 6 mos. | 9 mos. | 1 yr. | Avg. for Ht. & Age | Expected Gain | Per Cent of Avg. |
| **Weight** | lbs. | lbs. | % | lbs. | lbs. | lbs. | lbs. | % | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | lbs. | % |
| **Height** | in. | in. | % | in. | in. | in. | in. | % | in. | in. | in. | in. | in. | in. | in. | % |

| **Food Habits** | Grade | Milk | Water | Bread Cereal | Veg. Fruit | Meat | Eggs | Fat | Sweets | Tea | Coffee |
|---|---|---|---|---|---|---|---|---|---|---|---|
| When referred | | | | | | | | | | | |
| When closed | | | | | | | | | | | |

**Additional Remarks**

| | | | | In Bed | | | | Fresh Air | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **General Health Habits** | Grade | Appetite | Regular Meals | at p.m. | up a.m. | Hours of Sleep | Rest during Day | Day | Ngt. | Exercise | Posture | Enuresis | Constipation |
| When referred | | | | | | | | | | | | | |
| When closed | | | | | | | | | | | | | |

**Physical Defects**—Teeth: No. Carious
Tonsils
Rickets
Other Defects

Clean
Glands

**Re-Examinations and Further Developments**

Dates

V = Unfavorable
V = Favorable Red

Open with
other workers
or Agencies

Nutrition Worker

A. I. C. P., 105 E. 22nd Street, N. Y. C. 1-1-23

## MONTHLY WEIGHTS AND HEIGHTS

| Date | HEIGHT | | | WEIGHT | | | | HEIGHT | | | WEIGHT | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Average Ht.forAge Inches | Actual Height Inches | Gain + | Av.Wt.for Ht. & Age Lbs. | Actual Weight Lbs. | Gain + | Loss — | Average Ht.forAge Inches | Actual Height Inches | Gain + | Av.Wt.for Ht. & Age Lbs. | Actual Weight Lbs. | Gain + | Loss — |
| | | | | | | | | | | | | | | |

## PROBLEMS INVOLVED

Financial Aid
Economy
Budget Planning
Co-operation of Mother
Child Discipline
Preparation of Food
Planning of Meals
Special Diet
Marketing
Housekeeping
Others

*Results During One Year*

Instead of analyzing the work for each of these five years, the year beginning October 1, 1921, was taken for a detailed study of results. This analysis is as follows:

|  | *Number of Cases Receiving Intensive Care During One Year* | *Number of Families Represented* |
|---|---|---|
| Number of pre-school children receiving nutritional care | 349 | 274 |
| Number of school children receiving nutritional care | 188 | 43 |
| Total number receiving nutritional care | 537 | 317 |
| Special cases (rickets, anaemia, tuberculosis and prenatal women) | 38 | 38 |
| Total individuals receiving intensive care | 575 | 355 |

|  | *Number of Cases Closed During the Year* |
|---|---|
| Pre-school children nutrition cases | 170 |
| School children nutrition cases | 116 |
| Total nutrition cases closed | 286 |
| Special cases | 24 |
| Total cases closed | 310 |

Since one child in a family of five or six children can hardly be helped without influencing or changing the habits of all the children in that family, the above figures represent only a small amount of the work accomplished during the year. The families range in size from 1 child to 10 or 15 children, with an average of 3.8 children per family. The total number of children in the families helped during this one year was 1,349. Then in helping to overcome malnutrition in 575 individuals, 618 additional children have perhaps been prevented from developing malnutrition and given much better chance to resist disease.

*Improvements in Nutrition*

Of the 286 nutrition cases closed during this same year, 150 were pronounced by the physician as in good nutritional condition. There is direct evidence that 52.4% of the total number diagnosed as malnourished were brought into good nutritional condition through instruction. Of the other 136, some were apparently in good condition.

The reasons for closing those not pronounced by the physician as in good condition were as follows:

| | *Number of Cases* |
|---|---|
| Cases refusing examination but apparently in good condition.. | 23 |
| School children discharged because work with children of school age discontinued | 34 |
| Children moving from the district before completion of the work | 15 |
| Children died | 2 |
| Cases in which sufficient instruction given but home and social conditions such that children could not gain | 32 |
| Cases in which home conditions and food habits were improved but children did not gain | 10 |
| Cases closed for lack of cooperation | 20 |
| Total | 136 |

A study of the above plainly indicates that of the 286 cases closed, 150 by no means represents the total accomplishment. From the appearance and general weight of the 23 who refused examination it was very apparent that they had been benefited. Their weights had become normal but there was no way of telling whether their general physical condition was improved sufficiently to justify calling them well nourished. The same is also true of the 34 school children discharged because the work with children of school age was discontinued. The majority of the children who moved from the district were also gaining satisfactorily in weight.

Of the 32 children whose home or social conditions were such that they could not gain, in some cases parents refused to give their consent to having physical defects remedied; in other instances the diet was fairly good but three or four children were sleeping in one bed in a small room with no windows open. Instruction in these cases was probably of doubtful value. Yet in no case is it fair to say that instruction was without results, as shown by the boy who wrote to the Center to tell them he had gained, one and one-half years after he had moved from the district.

*Improvement in Food and General Health Habits*

In addition to the improvement as shown by the medical examination, there is a record of the improvement in food and other health habits. These habits if continued will surely be invaluable to these children. A study of the results in the 282 individual cases closed is summarized in the following table:

CHIEF HEALTH HABITS WHICH OCCUR AS FACTORS IN MALNUTRITION

*(From a Study of 282 Individual Cases Closed from October,* 1921, *to October,* 1922)

| | *Frequency of Occurrence* | | *Percentage Showing Improvement* |
|---|---|---|---|
| *Food Habits* | *At Opening* | *At Closing* | |
| Milk, insufficient | 192 | 39 | 79.7 |
| Water, insufficient | 126 | 9 | 92.9 |
| Cereal, insufficient | 276 | 153 | 44.5 |
| Vegetables-fruit, insufficient | 255 | 85 | 66.6 |
| Meat, too much | 62 | 14 | 77.4 |
| Eggs, too many | 70 | 13 | 81.4 |
| Fats, too much | 57 | 18 | 68.4 |
| Sweets, too much | 240 | 144 | 40.0 |
| Tea and coffee, too much | 267 | 18 | 93.0 |
| *Totals* | 1,545 | 493 | |

| | *Frequency of Occurrence* | | *Percentage Showing Improvement* |
|---|---|---|---|
| *General Health Habits* | *At Opening* | *At Closing* | |
| Sleep, insufficient | 117 | 39 | 66.6 |
| Fresh air, day, insufficient | 90 | 24 | 73.3 |
| Fresh air, night, insufficient | 174 | 58 | 66.6 |
| Exercise, overactive | 29 | 11 | 62.0 |
| Exercise, insufficient | 58 | 22 | 62.0 |
| Irregularity of meals | 183 | 65 | 64.4 |
| Rest during the day, insufficient | 156 | 113 | 27.6 |
| Constipation | 82 | 2 | 97.5 |
| *Totals* | 889 | 334 | |
| Average number of undesirable general health habits (as listed above) per child | 3.2 | 1.2 | |
| Average number of undesirable food habits (as listed above) per child | 5.5 | 1.8 | |
| | 8.7 | 3.0 | |

See Charts I, Ia and II, pages 19, 20 and 27.

In spite of the congested living conditions, and the difficulties surrounding the work with a foreign-born population, the undesirable health habits mentioned above were reduced from an average of 8.7 per child at the beginning of the work with them to an average of 3.0 at the closing of the case. Among the food habits, increasing cereal (oatmeal) and decreasing macaroni and sweets are the most difficult problems and seem to meet with least success. The comparatively small number induced to eat cereal is doubtless explained by the fact that Italians have a national prejudice against oatmeal and national prejudices are deep rooted. Among the general health habits, fresh air at night in the tenements is a difficult thing to secure, but in winter where bedding is scarce and coal is high, so that the fire is allowed to go out at night, the reason is obvious.

## Chart I

## Number of Children Having Each of Several Undesirable Food Habits Before and After Instruction

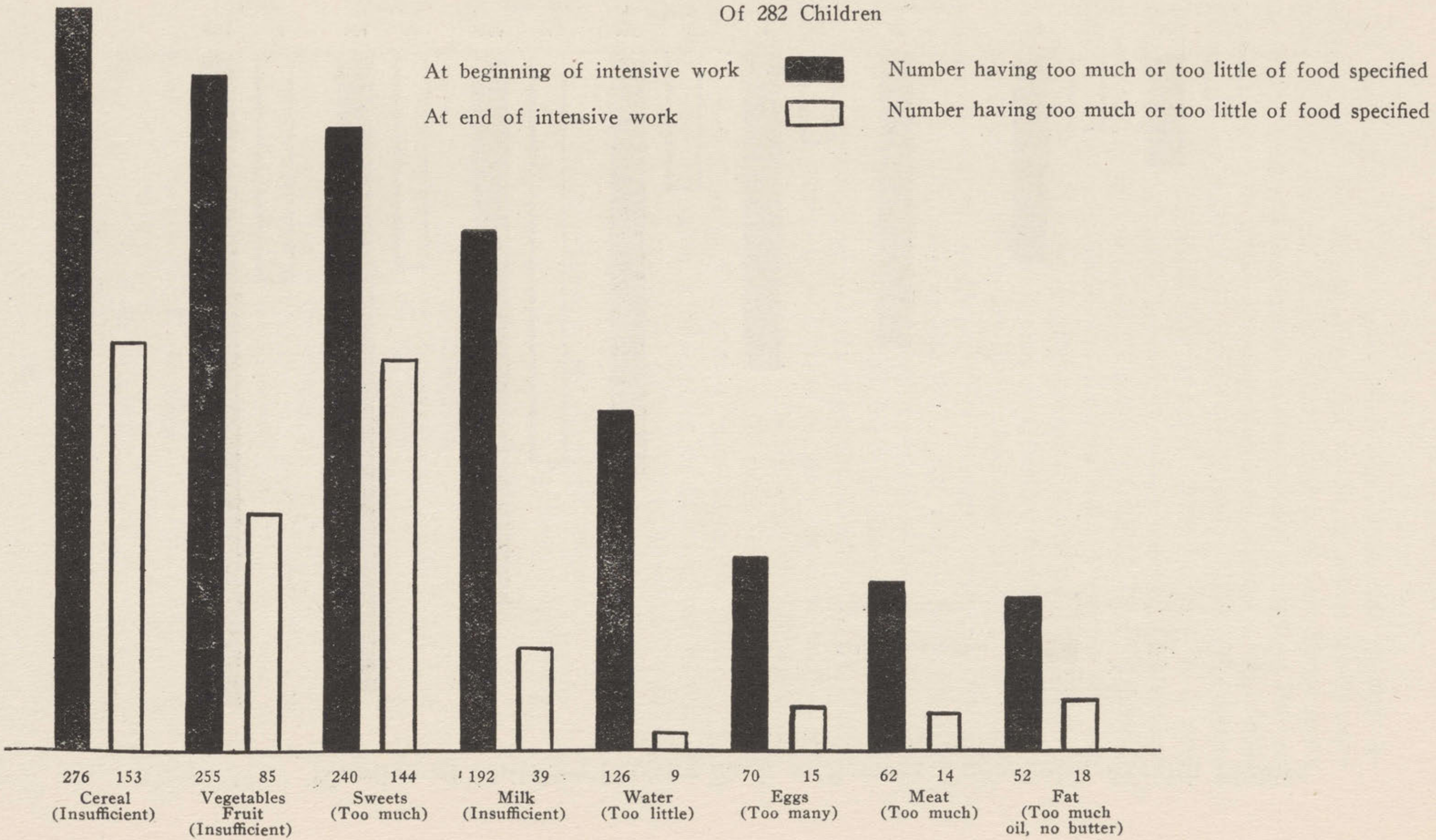
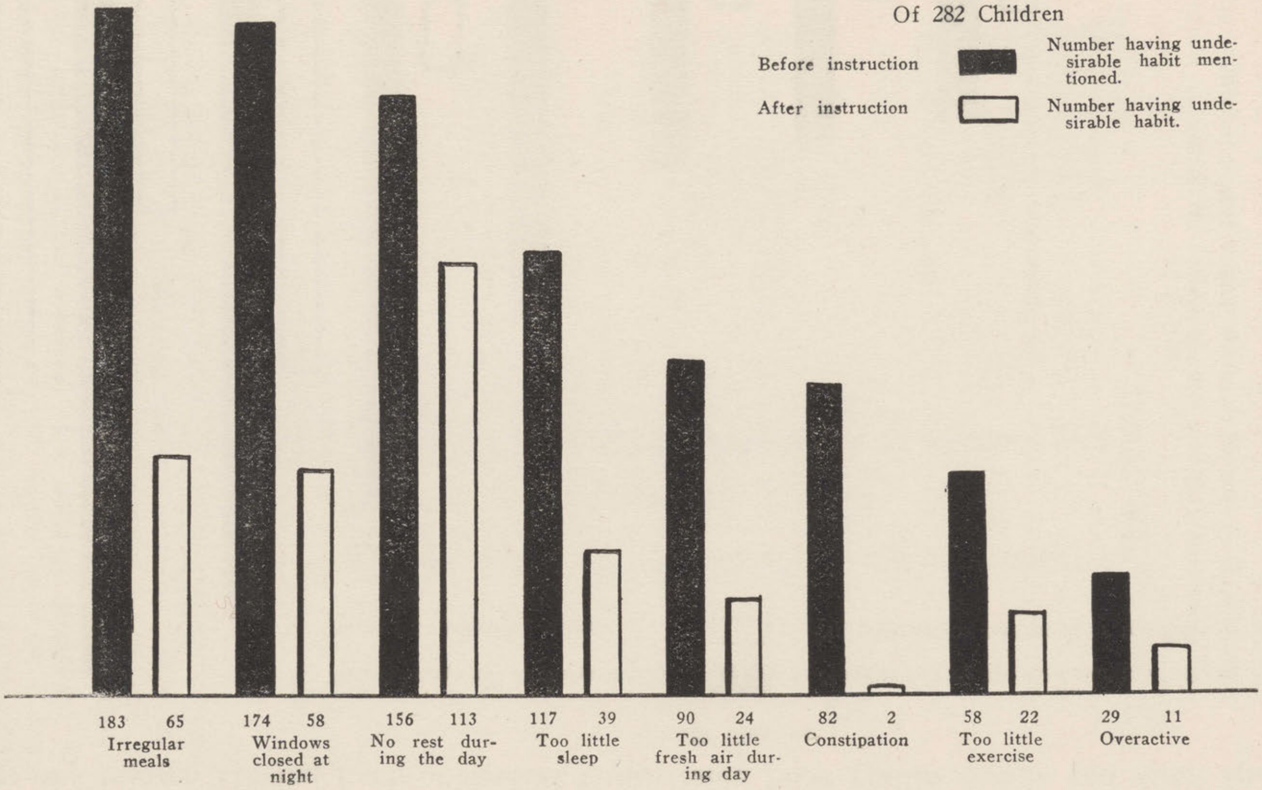


Chart II Number of Children Having Each of Several Undesirable Health Habits Before and After Instruction



In only 20% of the cases where the child was getting insufficient milk did the teaching fail to bring about satisfactory results. There was an improvement in *all* cases but the quantity was still considered insufficient in this group of 20%. The reduction in tea and coffee drinking was remarkable. Vegetables and fruit were satisfactorily increased in 66% of the cases where these had been of insufficient amount. This in itself is a very valuable habit to establish because of mineral elements and vitamin content of this type of food. Earlier bed hours were established in 66% of the cases where the children were sitting up too late. In overcoming this habit, it often meant a revision of the habits of the whole household as in one case where the family lived in two rooms, one of which was the kitchen and the other the sitting room and bedroom combined. The younger children could not go to bed until the older people did. The mother was persuaded to make the kitchen a little more attractive so that the older children would be content to sit there in the evening and thus give the younger children a chance to get to bed earlier. These younger children, who previously had failed to gain, began to improve immediately with the early bed hour. The reducing of constipation without drugs of any kind in 80 out of 82 cases was especially important, as constipation is often a direct cause of serious illness.

The following table is interesting in showing the number of children with a given number of the above mentioned habits at the opening of the case and at the closing:

Health Habits in 282 Malnutrition Cases

| | *Food Habits* | | *Health Habits* | |
|---|---|---|---|---|
| | *At Beginning* | *At End* | *At Beginning* | *At End* |
| Number having none of the undesirable habits mentioned above............ | 2 | 66 | 25 | 95 |
| Number having one of the undesirable habits mentioned above............ | 3 | 73 | 38 | 74 |
| Number having two of the undesirable habits mentioned above............ | 12 | 67 | 43 | 69 |
| Number having three of the undesirable habits mentioned above............ | 40 | 49 | 52 | 33 |
| Number having four of the undesirable habits mentioned above............ | 69 | 19 | 63 | 6 |
| Number having five of the undesirable habits mentioned above............ | 113 | 7 | 27 | 5 |
| Number having six of the undesirable habits mentioned above............ | 30 | 1 | 23 | 0 |
| Number having seven of the undesirable habits mentioned above............ | 13 | 0 | 11 | 0 |
| Number having eight of the undesirable habits mentioned above............ | 0 | 0 | 0 | 0 |
| | 282 | 282 | 282 | 282 |

At the opening of the cases all except 63 or 22% had more than three, and 20 or 7% had more than two of the undesirable food habits mentioned. At the closing 255 individuals or 90.5% had reduced these undesirable food habits to three or less and 206 or 73% to two or less. 156 children had more than four of these undesirable food habits at the beginning of the work and only eight had more than four at the closing. At the opening of the cases only 106 or 37% had two or less of the above mentioned undesirable general health habits while at the closing of the cases the number having two or less bad health habits was increased to 84%. See Charts III and IV, pages 23 and 24.

*Permanency of Results*

The value of any work, however, lies in its permanency. The hard work and the cost of the work would make it of doubtful value if children gained while the worker was going into the home to remind and to encourage, only to find the children returning to their old habits and condition after visits were discontinued.

To test the value of the work, it was planned at the beginning of October, 1921, to follow each child as the case was closed for a period of a year, re-weighing every three months with a physical examination by the physician at the end of the year.

Since October, 1921, to date (February, 1923), 201 cases have been closed. The nutritional condition of these 201 children at the closing examination was as follows:

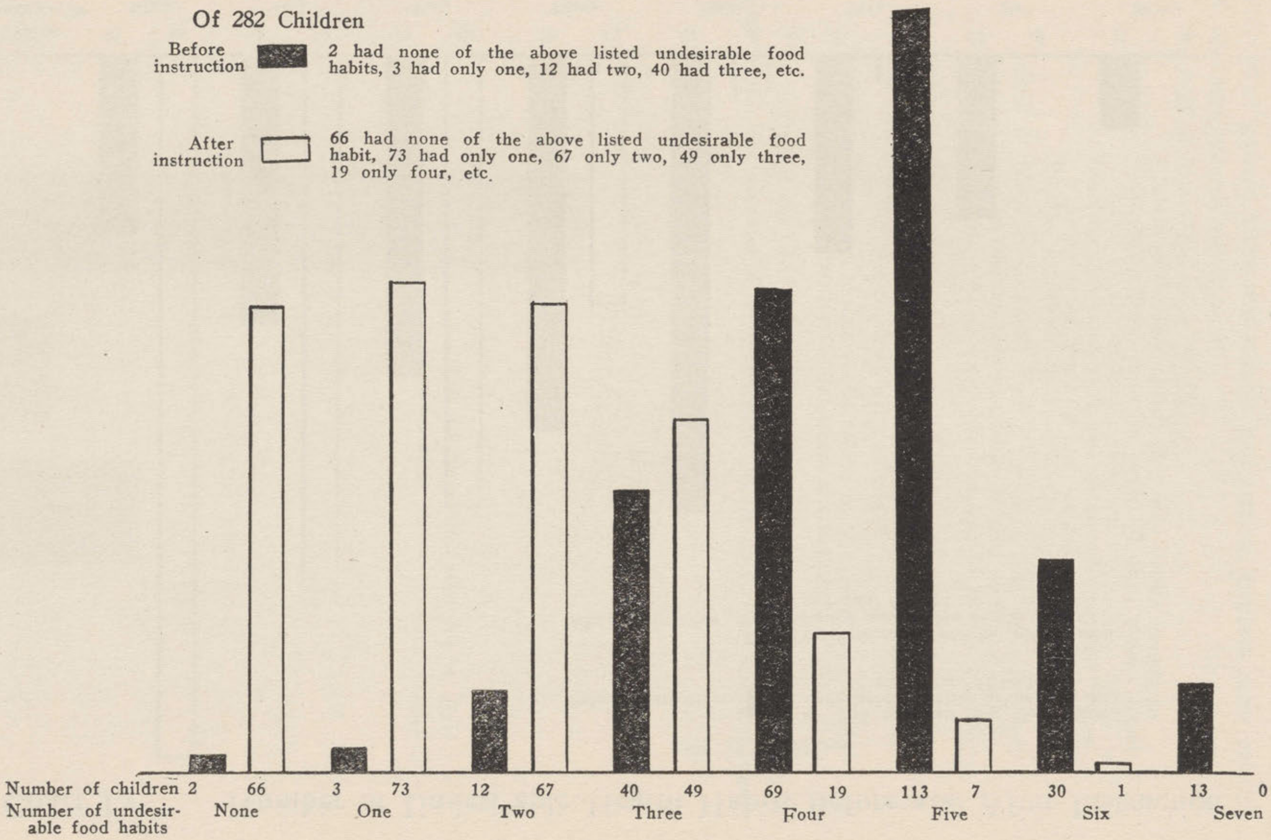
| | | *Percentage of Total* |
|---|---|---|
| Discharged as well nourished | 163 | 81.1 |
| Discharged as malnourished | 29 | 14.4 |
| Refused examination | 9 | 4.5 |
| | 201 | |

Only 48 have been followed for a whole year, and of this number 7 refused to report for re-examination, leaving only 41 that have been re-examined.

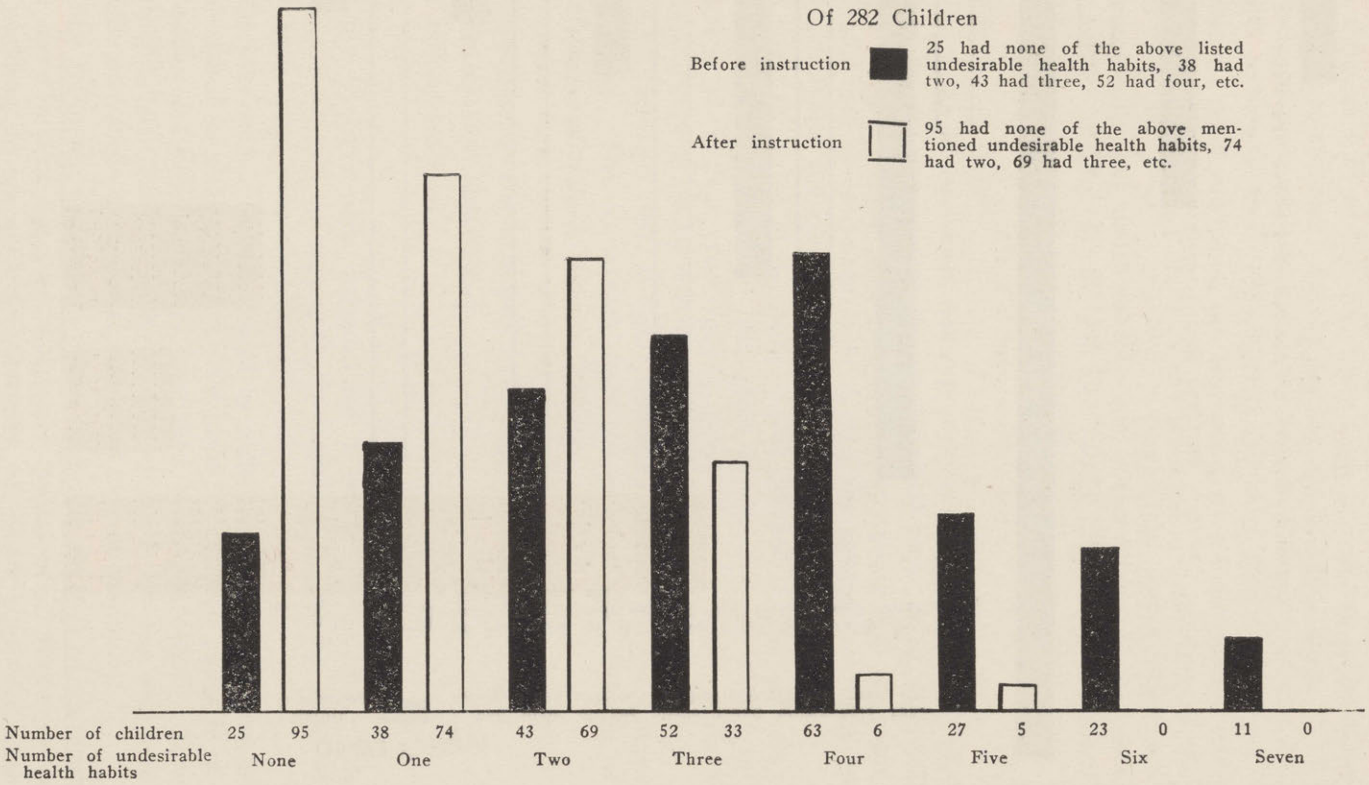
Of this number, 4 were closed as malnutrition cases, leaving 37 cases closed in good condition. Of these 37 children physical examination show 30 still well nourished while the other 7 have returned to their former condition. But of this 7, one has been very ill with pneumonia, and another had a bad case of bronchitis.

The following statements taken from the records of children that were in poor nutrition which are typical of all those where the children do not gain satisfactorily, or where they lose what

Chart III Number of Undesirable Food Habits Before and After Instruction



## Chart IV Number of Undesirable Health Habits Before and After Instruction



they have gained after instruction has ceased, explain why results in all cases are not permanent:

CASE 1. Large family of 7 children.
Income insufficient, able-bodied man works irregularly.
Woman nervous; sews on coats all day; cannot spend time to look after the children.
Children help and work too much; do not get out of doors in the fresh air and sunshine.
Woman indifferent because of the burden.

CASE 2. Children improved during the time case was open but income has been insufficient during the last 7 months. Man is a tailor and has been out of work. (Tailors on strike.)

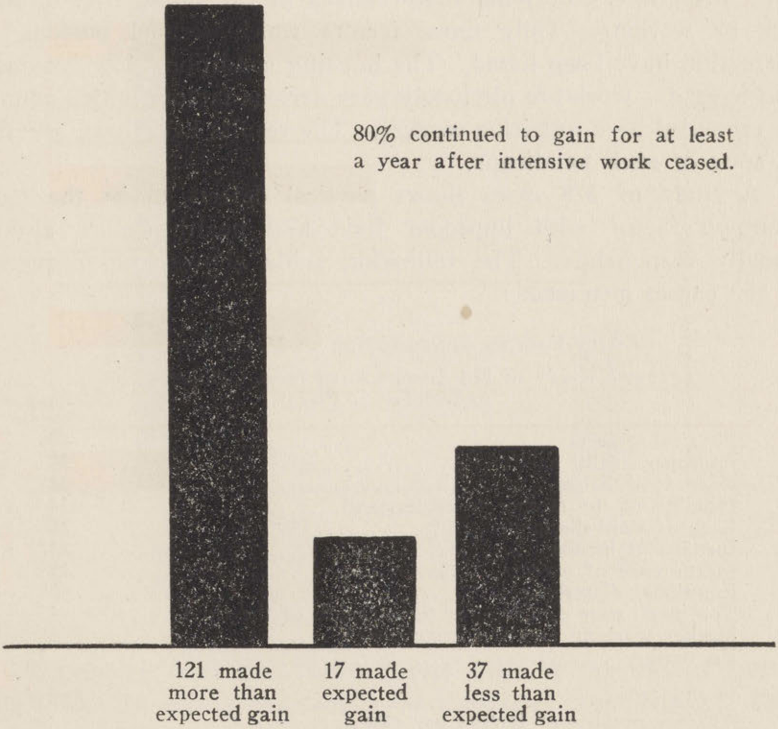
CASE 3. Woman dead. Father and oldest girl work irregularly. Boys do janitor work and no one home to look after the two children, aged 10 and 7.

CASE 4. Man has a pushcart with which woman helps, so that the children live on the street and are very unruly.

The weights of the children that are still being followed but who have not yet been re-examined have thus far seemed very

Chart V

175 Pre-school Children Followed for One Year After Closing


80% continued to gain for at least a year after intensive work ceased.

satisfactory. Of 201 cases closed since October, 1921, it was impossible to re-weigh 26 children because some moved from the district, 3 have died, and the rest failed to co-operate. There are 175 children on the follow-up list. An analysis of the weights thus far is as follows:

OF 175 CASES BEING FOLLOWED

| | |
|---|---|
| 121 | are making more than the expected gain |
| 17 | are making a normal expected gain. |
| 37 | are making less than the expected gain. |

Of 29 children malnourished when discharged, it is interesting to see that 25 are now making gains above the expected, that 3 are gaining normally, and that only 1 is making less than a normal gain. See Chart V, page 25.

*Factors Involved*

Malnutrition is not an easy condition to overcome because there are so many factors involved. Causes may be roughly classified as follows: physical defects, bad health habits (of which there are at least 8 outstanding ones), poor food habits involving at least 8 different types of food, insufficient income, indifference on the part of the mother or inability to understand English, lack of child discipline, emotional disturbances in the home life, mother sick or working. Only those factors which seemed possible of correction have been listed. The housing conditions, low incomes, and irregular work are obviously very serious factors which cannot be remedied by a nutrition worker. The results have been secured in spite of such handicaps.

A study of 578 cases shows physical defects to be the most common factor with improper food and health habits almost equally responsible. The following table shows the frequency of the causes mentioned:

CHIEF FACTORS CONTRIBUTING TO MALNUTRITION

(*From a Study of* 578 *Cases Closed from October* 1, 1920, *to October* 1, 1922)

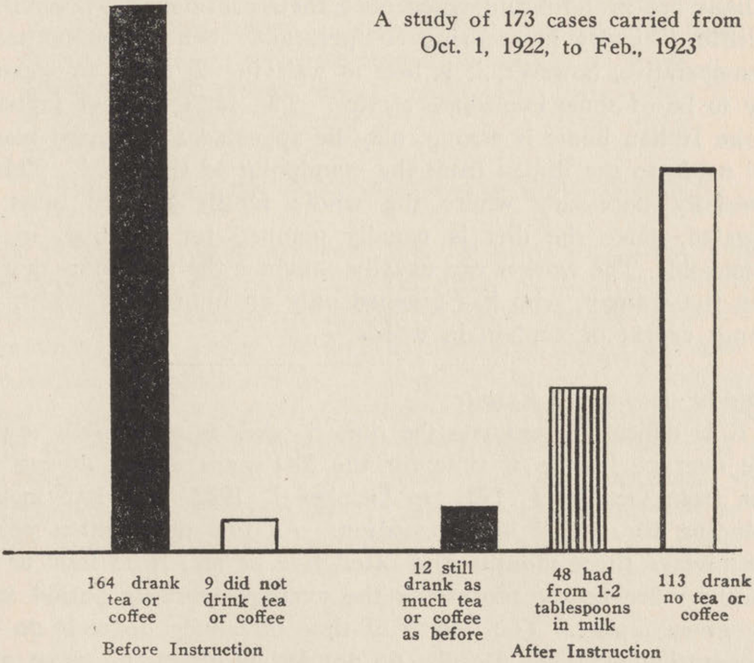
| | *Frequency of Occurrence* |
|---|---|
| Physical defects | 408 |
| Improper health habits | 392 |
| Poor food habits | 348 |
| Inability of the mother to understand | 346 |
| Lack of child discipline | 255 |
| Insufficient income | 247 |
| Indifference of parents | 185 |
| Emotional disturbances | 71 |
| Too much stair climbing for the strength of the child | 43 |
| Mother working (number incomplete) | 25 |
| No mother | 3 |
| Total | 2,323 |
| Average number of factors per case | 4 |

*Work with the Prenatal Mothers*

All first pregnancy cases are automatically referred by the nurse to the nutrition worker who visits the home to help the mother to reconstruct her diet where necessary. As this part of the program has been started less than one year, as cases are frequently not known to the nurse until two or three months before delivery, and as cases are turned over to the Baby Health Station when the child is 2 months old, results in terms of benefit to the mother or child have not been studied as yet. The mothers are usually eager for help and willing to co-operate.

Since it is known that the food of the mother is of great importance in the future welfare of the child, the following improvement in diet which is typical of the majority of prenatal cases referred, indicates that the instruction cannot be without very far reaching results. In general the women have previously learned that they should have milk, fruit and vegetables but they have not learned how to get an adequate, well-balanced diet.

Chart Ia Improvement in the Tea and Coffee Habit


A study of 173 cases carried from Oct. 1, 1922, to Feb., 1923

*Difficulties Encountered*

Regulating food and health habits with all the related factors and a foreign-born population make a difficult combination. Conversation may often be carried on in 1-3 English, 1-3 Italian and 1-3 gesticulating, or all gesticulating. An interpreter is valuable but she may not always put the emphasis in the right place.

The food habits in families of foreign birth are especially difficult. When they come to this country they meet unfamiliar foods and marketing facilities. They seek what is familiar, avoid the strange, and develop undesirable food habits.

Revisions in dietary habits must be gradual. Suggestions will be assimilated very slowly. Although only such changes as are consistent with health should be suggested, a study of the whole family dietary is essential because it is almost impossible to introduce changes for one child or for the prenatal woman which will not affect the whole family.

### *Securing Co-operation*

Although the co-operation of the mother begins gradually it increases rapidly as signs of improvement appear. If the mother can be made to understand that the worker has only the good of her child at heart, she is usually willing to do her part. The Italians are grateful and when once their confidence is won there is little difficulty in securing co-operation. When the mother is unco-operative, however, it is best to wait for or make an opportunity to be of some immediate service. The father, whose influence in the Italian home is strong, may be appealed to through reason and made to see things from the standpoint of the child. This is especially necessary where the whole family dietary must be adjusted, since the diet is usually planned for the man in the household. The worker can usually convince the man more quickly than the woman, who has grasped only an impression which she cannot repeat or explain in words.

### *Time to Accomplish Results*

It is difficult to estimate the time it takes to accomplish results. The average length of time for the 310 cases closed during the year from October 1, 1921, to October 1, 1922, was 10.3 months including the period of observation. As this observation period was always three months and often five or six, from four to six months more nearly represents the average working period with any given family. The length of time obviously depends on the co-operation secured. Results do not follow directions given once or even twice. The same directions must be repeated many, many times, as this is a habit forming process, successful only with constant repetitions until habits become automatic. With a foreign-born mother who speaks practically no English, with three or four children each with three or four undesirable health habits and two or three wrong food habits to be broken and re-established, with perhaps the whole family dietary to be constructed, time is an absolute necessity.

*The Staff*

The staff in the Mulberry District consisted of 5 field workers and one supervisor. The average number of individuals under instruction per worker for the last year was 115. The average number of visits per individual case helped was 10.5. The average number of visits made per worker for the year was 1,251. During the last year, the total number of visits made to homes of the regular cases was 6,090 plus 520 for a special piece of work, making 6,610 visits, or an average of 1,322 visits for each worker.

COST OF INTENSIVE WORK

| | |
|---|---|
| Average number visits per case | 17 |
| Average number children under intensive care per case | 1.5 |
| Average number children being influenced per case | 3.8 |
| Average length per visit per family | .55 hour |
| Average salary of dietitian per hour | $ .647 |
| Average cost per visit per family | .37 |
| Average total cost per case | 6.29 |
| Average cost per child influenced | 1.66 |

(This cost does not include overhead or clinic facilities.)

In estimating the above, only the malnourished children under care have been considered. Unlike dental work or correction of physical defects, results of intensive work are not confined to individual cases. Other children in the same family are also influenced, so that when the cost is calculated in terms of individuals actually helped it is considerably less than would seem at a glance. With an average of 3.8 children per family visited the cost per individual would be only $1.66. Also once the educational work is established, in the majority of cases it does not have to be repeated, so that there is not the added expense of recurrent cases.

# SECTION II.

## Group Work

GROUP work would naturally seem more economical of time than intensive home visits, but it was extremely difficult to get these Italian women out at stated intervals and much time was lost thereby.

The average cost per visit in a home has been estimated to be 37 cents. The average cost per person per lesson where the women were taught in groups was estimated to be 36 cents, with an average attendance of 8 per lesson. With practically the same cost per individual and with more satisfactory results from intensive work, in this particular neighborhood the malnourished pre-school child was handled more economically through intensive work than in groups. School children can doubtless be handled more economically in large numbers.

The following groups have been successfully organized:

1. *Nutrition Classes in Schools:*

These classes helped to arouse interest throughout the neighborhood, but were discontinued when the emphasis was centered on the pre-school child.

2. *Little Mothers' Clubs:*

In these classes older girls were taught how to feed and care for the pre-school brothers and sisters where mothers did not speak English or did not have time to prepare the meals properly.

3. *Poster Clubs:*

The poster clubs were for the purpose of making large numbers of picture posters to be used throughout the district. They carried good food and good health habit messages.

4. *Mothers' Groups:*

Various attempts were made to teach mothers in groups instead of individually. These attempts met with considerable difficulty, but four classes were carried through successfully.

The following paragraphs describe these groups more fully:

*Nutrition Classes in the Schools*

The nutrition work started with Nutrition Classes in June, 1918. There was one trained nutrition worker to whom six nurses referred children of school age needing nutritional care. One class met at a local Baby Health Station and the other in a school building near by maintained by the Children's Aid Society. These classes were held throughout the summer and in the fall were moved to the schools and continued as school classes. The nutrition class with the school child was a splendid approach in a virgin field.

The usual nutrition class routine was followed. The children met weekly for a class period, they were weighed, weights recorded on weight charts, and these charts used as a basis in teaching the need of observance of good food and other health habits. Cooperation was secured through class spirit and competition. While competition must be handled with discretion to avoid suffering of those who are doing the best they can but yet fail to gain, it helps in stimulating interest. The class spirit spurs children on to acquire one good habit after another and in perhaps a shorter time than is required through home visits, but it is doubtful whether the results are as permanent. There are many factors in malnutrition which the child cannot control and homes must be visited to help the mother to realize the need of readjustments which will make it possible for the child to gain and to continue to gain throughout the period of growth. Home visits and nutrition classes combined bring best results with children of school age.

It is estimated that one worker can handle not more than 100 to 125 malnourished children in nutrition classes with 15 to 20 children to a class each half year and do the follow-up work necessary.

Since June, 1918, there have been 28 nutrition classes in which were handled 712 children, an average of 25.5 children to a class. There have been classes in all four schools in the district with varying degrees of success. One of the most satisfactory results was to have the principal more thoroughly incorporate nutrition in the teaching of her general health program. In another school, when it was decided to discontinue work with school children, the principal asked for a series of posters representing the various health habits so that each of her teachers might give to all the children in their respective rooms the good health habits taught to the few malnutrition children. These posters rotated weekly, so that each poster eventually appeared in each class room.

### *A Comparison of Gains in Fall and Spring*

Some of these classes were conducted in the fall, some in the spring, and even before seasonal variation was studied it was noticed that the children in the fall classes gained better than those in the spring classes. A comparison of the gains of two such groups is as follows:

| | *Enrollment* | *Actual Gain Pounds* | *Expected Gain by Burk-Boas-Holt Standard, Pounds* | *Per Cent of Expected Gain* | *Expected Gain by Calendar Months, Pounds* | *Per Cent of Expected Gain* |
|---|---|---|---|---|---|---|
| Oct. 13, 1920, to Jan. 26, 1921... | 25 | 85.8 | 34 | 252 | 47.7 | 179 |
| Feb. 1, 1921, to June 1, 1921.... | 25 | 31.0 | 48 | 64 | 23.0 | 135 |

The usual method of calculating "expected gain" for a given month is to divide the annual gain by 12.

In a study of the gains of Italian children during different months of the year, it was found that while children make about 44% of their total yearly gain from October 1st to February 1st, a period of four months, they make only about 22% from February 1st to June 1st, a period covering the same length of time. It seems fairer to compare actual gains with a standard more nearly approaching normal conditions. Therefore in the column headed "Expected Gain by Calendar Months" the expected gain was calculated according to the month during which the child was under observation.

Whichever method is used, the figures show greater percentage gain over the expected gain in winter than in the spring, but when compared with the expected gains according to calendar months, the figures show the value of the instruction to be almost equally good in winter and spring.*

### *A Comparison of Gains with and without Home Visits*

Another interesting comparison is between groups receiving instruction and control groups without instruction during spring and fall.

| FALL CLASS | *Enrollment* | *Actual Gain Pounds* | *Expected Gain by Burk-Boas-Holt Standard, Pounds* | *Per Cent of Expected Gain* | *Expected Gain by Calendar Months, Pounds* | *Per Cent of Expected Gain* |
|---|---|---|---|---|---|---|
| *With Regular Home Visits* | | | | | | |
| Oct. 13, 1920, to Jan. 26, 1921... | 25 | 85.8 | 34.0 | 252 | 47.7 | 179 |
| *Very Few Home Visits* | | | | | | |
| Oct. 19, 1921, to Jan. 25, 1922... | 20 | 33.9 | 26.8 | 126 | 36.3 | 93 |
| Sept. 27, 1920, to Jan. 23, 1920.. | 20 | 15.8 | 15.9 | 98 | 31.8 | 49 |
| SPRING CLASS | | | | | | |
| *With Regular Home Visits* | | | | | | |
| Feb. 1, 1921, to June 1, 1921.... | 25 | 31.0 | 48.0 | 64 | 23.0 | 135 |
| *Very Few Home Visits* | | | | | | |
| Feb. 1, 1922, to June 1, 1922.... | 20 | 17.3 | 34.5 | 50 | 18.3 | 94 |

Although the seasonal variation is marked there seem to be better gains in spring classes where home visits are made than in fall classes where no home visits are made.

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* For further discussion of the seasonal variation refer to A. I. C. P. publication "Growth and Development of Italian Children," by Mr. J. C. Gebhart.

### *A Class with Children of Tubercular Parents*

Another class was with the children in the Fresh Air class on the roof at the C. A. S.* school. These were undernourished children of tubercular parents. The following lists filled out by the children between first and second lessons before suggestions had been given show very decided need of instruction:

| | 1 | 2 | 3 |
|---|---|---|---|
| *Got Up at* | 8 o'clock | 5 o'clock | 5 o'clock |
| *Breakfast* | Rice and milk | Bread and milk | Bread and milk |
| *Dinner* | Macaroni, rice and meat | Fish and bread | Fish and bread |
| *Supper* | Potato and egg | Macaroni | Potato and bread |
| *Ate Between Meals* | Fried pepper and potato | | |
| *Bed Time* | 8:30 o'clock | 8 o'clock | 8 o'clock |

Such lists gave us a general idea of habits so that immediate helpful suggestions were possible.

### *Influence of Nutrition on School Grades*

Very little data on improvement in grades of the children at school, during the time nutrition instruction is being given, are available. The following are the only figures available in this demonstration, but since others have found very little correlation, very little time has been given to this relationship. These figures are taken from three classes held from September, 1919, to January, 1920, with a total enrollment of 59 children. There were 12 grade A's at the end and no grade C's, whereas there had been no A's at the beginning and 9 C's. However, no conclusions are drawn but the list of grades presented as follows:

| *At the Beginning* | | *At the Close* | |
|---|---|---|---|
| A | 0 | A | 12 |
| B + | 11 | B + | 9 |
| B | 30 | B | 30 |
| B — | 9 | B — | 8 |
| C | 9 | C | 0 |

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* Children's Aid Society.

# The Health Class for a Large Group

GRADUALLY it was realized that very few children could be reached through the nutrition classes, compared to the large numbers in a whole school. In the fall of 1920 the principal in one of the schools in the district asked assistance with her health work. She had found, according to Dr. Thomas D. Woods' standard, that of 850 children, 225, or 26.5%, were 7% or more under weight for their height and age. Although these numbers were impossible for intensive work it was felt that nutrition teaching must be adapted to the masses if it is to reach its greatest usefulness.

The problem was worked out as follows: These children (225) were divided into two groups, an older group and a younger group. Two dietitians were assigned to the work for two hours each week. Under the direction of the principal they assisted the teachers in weighing and measuring the children and directly afterward gave them health talks as outlined below.

The school was crowded and the teacher had little extra time for other than the routine class work. There were meagre equipment and little available space. The small group method was therefore not practical, either from the standpoint of the school or the time of the dietitian. As a result, the older group was weighed and instructed in three divisions one afternoon each week from 2:30 to 3:30 o'clock—an average of twenty minutes to a division. The three divisions of the younger group met another afternoon at the same time and were handled in the same way. The classroom teacher brought one division down to be weighed, recorded the weights while a dietitian did the weighing. She then took them to the recitation room, where a ten minute talk on a particular health topic was given by the second dietitian. Meanwhile another class was brought down to the weighing room and then to the recitation room. The first group was dismissed and the second group was given a health talk. This was followed in a similar way by a third group. The height of the children was taken about every six weeks. Before admittance to the class, they had been given the usual school medical examinations. Physical defects of the eyes, ears, teeth, tonsils, etc., were corrected as quickly as the school facilities would permit. While ideally we believe it is necessary to visit the homes of persistent cases for best results, it was not possible to do so in this intance. Methods were adapted to an entire school where conditions were such that individual instruction was not possible.

The course was given during the first term of the school year covering fifteen (15) weeks. As other health work was being carried on in different departments of the school at the same time, such as lunches in the morning and afternoon, dental care and physical education, it is difficult to say how much was accomplished through the health class alone. The majority of the children entered into the spirit of the health teachings, and there were many instances where health habits were definitely improved. At the end of this course only about 40% of the original 225 children in the nutrition group were still 7% or more underweight. At first the children were dropped from the class as they were less than 7% underweight, but later it was felt that in order to insure more permanent results they should all continue the entire course. In fact, "Preventive measures" for healthy children may prevent even a larger amount of malnutrition than curative measures for those already suffering from it.

# Outline Used for Teaching the Health Classes

*by*

GERTRUDE PREISCHE and ESTHER ELLIOTT

*Aim*

To teach good health habits in such a way as to inspire the child below normal to strive to become normal and the normal child to remain so. Health and happiness as results were emphasized throughout.

*Helpful suggestions to be employed*

Drills, posters, plays and songs, references to the clock and hours of the day, all were used to vary and enliven class work. The children themselves competed in writing compositions on some health subject taught in the class.

## *THE CHILD'S GOOD HEALTH DAY

*Lesson 1—Outline*

A. *Introduction*

1. Good health habits lead to happiness and greater usefulness.
    a. They make one feel better.
    b. They make one work better.
    c. They make one look better—have rosy cheeks, etc.

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* In considering the following, we assume that the children have had some kind of physical examination, at least as thorough as existing conditions will permit.

2. Improper health habits lead to unhappiness.

   a. They help to cause sickness and disease.
   b. They help to cause poor work.
   c. They help to cause poor appearance—pale, thin, etc.

B. *Rules of the Game*

1. Drink at *least* two cups of milk a day.
2. Eat some kind of cereal every day.
3. Eat one green vegetable every day.
4. Eat potato or a root vegetable once a day—not fried.
5. Do not drink tea or coffee at all.
6. If you are hungry between meals, bread and butter, a glass of milk, crackers, or some fruit is good. Do not eat cheap cakes and candies.
7. Sleep at least 9 hours every night—10 if possible—with windows open wide.
8. Have plenty of fresh air while sleeping or working or playing.
9. Brush your teeth every morning and night.
10. Have a bath at least once a week.
11. Play out of doors every day.
12. Drink 4 to 6 cups of water every day.
13. A bowel movement every day.
14. Wash hands and face before eating.
15. Rest after eating.

*The Reward*

1. Happiness.
2. More nearly normal in weight and height (this may be an increase or a decrease according to the individual).
3. General improvement in physical condition.

C. *Weighing and Measuring of Children and Recording Weights*

(With smaller groups the use of the individual weight chart is helpful and can be used in each lesson.)

### *Subject Matter as Taught to Children 8 to 11 years*

We are happiest when we are well. I know a little girl named Dorothy and a little boy named Arthur, just about as big as you! They are always strong and happy because their mother knows just how to keep them well; she puts them to bed early with the windows wide open, and feeds them the right food and always keeps them neat and clean. They brush their teeth morning and night, and play out of doors each day (show posters of healthy boy and girl and call them D. and A., emphasizing round, rosy cheeks, clean teeth, neatness, etc.). They are always well and have such a good time, playing! Their motto is "Health and Happiness." Shall we have it for ours too? (Show poster of motto on health and happiness with pictures of happy people of all ages.) Each week D and A are weighed to see how much they have gained. That's what we are going to do, too, and every once in a while we are going to be measured to see how much taller we are. Today we will be weighed and measured, and next time we will talk over some of the things that D and A's mother has them do. Then we can tell our mothers so they can help us to do the things that will make us strong and happy.

*Lesson 2*

A. *Weigh and measure, etc.*
B. *Review of Lesson* 1.
*C. *Subject—Two of the things necessary for good health*—(1) *Rest and sleep, and* (2) *Cleanliness.*

1. Rest and sleep.

a. Number of hours of sleep boys and girls need
   (1) Tiny baby, 18 to 20 hours.
   (2) Pre-school child, 12 to 14 hours.
   (3) School child, 10 to 11 hours.
   (4) Average adult, 7 to 9 and often 10 hours.

b. Bedtime
   (1) Under 10 years, before 8 o'clock.
   (2) Under 14 years, before 9 o'clock

c. Best conditions for sleep
   (1) Sleep alone, or not more than 2 in one bed.
   (2) Have windows wide open for fresh air.
   (3) Light supper at 6 P. M.

d. Why boys and girls need sleep
   (1) To give them a chance to rest.
   (2) To give them a chance to grow.

e. Why boys and girls need to rest after meals
   (1) To give stomach a chance to do its work. (Rest after meals may be sitting quietly and reading or playing games or lying down.)

2. Every-day habits of cleanliness help to give boys and girls health and self-respect.

a. Keep the outside of body clean. Clean teeth, hands, nails, skin, hair, etc.
   (1) Brush teeth night and morning to avoid poor looking teeth, decay, toothache, stomach trouble, etc. (Have demonstration and inspection where possible for younger children; use blackboard illustrations for decayed teeth, etc., for older ones.)
   (2) Wash hands and face and clean nails before each meal to be neat looking and prevent disease due to dirt on hands. (Demonstration and inspection where possible for younger children; older ones may be interested in growth of bacteria from dirty fingerprints.)
   (3) Have a bath of warm water and soap at least once a week to keep the skin clean, the body in good condition, and to help to keep disease away.
   (4) Wash the hair at least once a month to keep it clean and beautiful.

b. Keep the inside of the body clean—the lungs, stomach and bowels.
   (1) Fill the lungs with fresh air constantly by deep breathing to drive out stale air and disease germs.
   (2) Eat vegetables and fruit every day and drink 4 to 6 glasses of water to cleanse the stomach and bowels.

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* Lesson may be divided for younger children.

*c. Be a good citizen, keep your surroundings clean—your home, street, school, etc.
  - (1) Help to keep things "picked up" wherever you go.
  - (2) Have "a place for everything, and everything in its place." (Keep books on the shelves, toys in the drawer, clothes in the closet, hat and coat on the hook, etc.).
  - (3) Put waste in paper barrel, ashcan or in refuse receptacle.
  - (4) Never spit in the car, on the floor or on the sidewalk. To do so may spread disease.
  - (5) Kill flies, rats, etc. They spread disease.
  - (6) Keep all food covered—encourage clean stores by buying at clean places.

d. Why we must live habits of cleanliness.
  - (1) Cleanliness disposes of waste.
    - (a) Waste is a source of disease.
    - (b) Waste in the body produces a poison.
    - (c) The waste lying in streets breeds poison.

### *Subject Matter*

Last time we decided we wanted to be strong, healthy children like D and A and we are going to talk over some of the things they have been doing to make them grow ever since they were very, very small. Every night they get a great deal of sleep. They go to bed at eight (adapt time to age of child) each night and sleep all night long with their windows wide open so that at 7 o'clock in the morning they are ready to get up when mother calls. Why do we need so much sleep? Because our bodies are little houses made of building bricks, and when we work hard and play hard all day long we tear down some of the little rooms in our body houses. Then at night when we are quiet and still, the little workmen in our bodies have to build them up again ready for the next day. It takes a long time because each time they have to build a few rooms more besides, to make us big men and women by and by.

When carpenters work in your house at home they make a lot of dirt, don't they? It is cleaned up and put in the ash-barrel. Our little body workman makes dirt and waste too, but our ash-barrels are our bowels and the tiny pores in our skin (ill.) and if we don't keep these cleaned out there will be so much dirt in them we won't grow and we may get sick. Every morning we must carry away the dirt by scrubbing our skin hard with soap and water. We must scrub our ears, our necks, our hands and our faces, and once every week at least we must take a bath all over (poster of child washing himself). We must keep our teeth clean too. D and A brush their teeth every morning and every night. That helps to keep them clean and white and free from decay. When they decay they ache and sometimes they have to be pulled out by the dentist. Children who clean their teeth and keep well and strong don't have toothache either. But the biggest amount of waste from our bodies is carried away through our bowels. You must be sure to have a bowel movement at the same time every day! Then the dirt is all carried off and you can grow big and strong.

So we must try this week especially to go to bed early, to brush our teeth, to wash ourselves real clean before breakfast, and to have a bowel movement every day. (Cleanliness of surroundings, home, street, school, etc., may be touched upon if desirable.)

### *Lesson 3*

A. *Weigh and measure, etc.*

B. *Review.*

C. *Subject—Milk, with its use for breakfast especially emphasized.*

1. Why milk is good for active boys and girls.

   a. It is easily digested with little waste. (It is the best food for babies, little puppies and kittens, etc.)

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* For older children; younger children may be interested.

b. It contains material that makes boys and girls grow tall and gain in weight and strength.
c. It furnishes lime that makes strong bones, strong teeth and strong muscles.

2. When to use milk.

a. Milk is especially good for breakfast because
   (1) Boys and girls need good nourishing food after a long night's rest.
   (2) They need food for work and play of the day.
b. For luncheon.
c. For dinner.

3. How much milk growing boys and girls need every day.

a. Two cups at least to drink.
b. Milk may be served in creamed toast, potatoes, or fish, cooked in cereal or put on cereal, cooked in custards, rice puddings and cocoa.

4. Milk and cocoa versus tea and coffee.

a. Milk and cocoa aid growth; coffee and tea retard growth.
b. Milk and cocoa help to make one well and strong; coffee and tea tend to make one thin and nervous.
c. Milk and cocoa are food; coffee and tea may take away the appetite for good food without being of any value to the body.

*Subject Matter*

After a long night's rest D and A clean up ready for breakfast and then they eat a *good* breakfast. It's such a long time since they ate their supper (count up the hours on a clock) that the little workmen in their body houses haven't any more material with which to build, and if they are going to build stronger, bigger houses they must have more material. What will we give them first of all? Some lime for mortar, hiding in the nice rich milk. Yes, milk is best of all—that is what all kinds of little babies (puppies, kittens, calves, pigs, lambs and real babies) grow on. There are many, many good things in it! Things that make you grow big—things that give you good teeth—that make strong bones and muscles and rosy cheeks, etc. We must drink at least two cups each day to furnish enough material for our little builders. There is something else too that D and A like for breakfast—Cocoa with lots of milk in it. Don't you think that would be nice before you start for school sometimes, especially on a cold day? Not every day, but two or three times a week. Some people like tea or coffee for breakfast, but Arthur wants to be 6 feet tall when he is a man, and Dorothy does not want to be thin and nervous all her life, so they've decided that even if the big folks do drink coffee and tea, they will drink only cocoa and milk. If we want to be like D and A we must start right now to drink milk and see how much we gain by drinking milk every day. (Illustrate with posters of milk and cocoa as compared with tea and coffee.)

*Lesson 4*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—cereal—its place in the complete breakfast.*

1. Value of cereals.

a. They furnish materials for the growth of strong muscles and bones and good red blood.
b. They help to avoid taking medicine (castor oil, etc.) by furnishing roughage to clear system.

2. Kinds of cereals.
    - a. Dark coarse cereals. Oatmeal, "wheatena" and "pettijohn."
    - b. Light colored or more finely ground cereals. Rice, farina, cream of wheat and cornmeal.
    - c. Prepared cereals. Puffed wheat or rice, shredded wheat, cornflakes, grapenuts.

*3. Comparison of the different kinds of cereals.
    - a. Dark coarse cereals.
        - (1) Richest in muscle and bone building substances and the material found in the outer coatings of grain.
        - (2) Contain the greatest amount of roughage—not as finely ground.
    - b. Prepared cereals most expensive for the amount of food value received.

4. Cereal part of good breakfasts (ill. with posters).
    - a. Milk, cereal, bread and butter.
    - b. Bread and milk.
    - c. Milk and cereal.
    - (Fruit and an egg, either or both, may be added to each of these breakfasts, if desired.)

5. *Walk* to school—do *not run.*

*Subject Matter*

How many have been drinking two cups of milk every day? But D and A had something else for breakfast too. Cereal? Yes, cereal—oatmeal, farina, wheatena, pettijohn or cornmeal, with milk and perhaps a little sugar on it. Some cereals are better than others. The coarse dark ones that have to be cooked are the best because they have more good things in them to make your bones and muscles grow and they help the little body builders to keep the inside of your bodies clean. Cereals give you "pep" and help you to do your lessons well. If you have plenty of coarse cereals like oatmeal every day you won't have to take castor oil and magnesia. D and A eat a big dish of cereal every morning, some fruit and milk and plenty of bread and butter. That gives them a good start for the day. It helps them to feel like work and keeps them from getting tired. We all need a good breakfast before we go to school. Now what are you going to tell mother that you want for breakfast, Johnnie? (Lesson may be illustrated with poster of cultivation of grain and manufacture of cereals for older children. Older children are interested in stories of the Indian's use of grains for food.)

*Lesson 5*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—Posture—deep breathing and fresh air.*

1. Correct standing and sitting posture (Ill. for standing and sitting correctly. Stretch up tall, stomach in, let shoulders fall).
2. Incorrect standing and sitting posture (Ill. slouch).
3. Comparison of correct and incorrect posture (Ill.).
    - a. Correct posture gives room for heart, lungs, stomach, etc., to do good work; incorrect posture cramps and hinders them.
    - b. Correct posture gives more room for fresh air in the lungs.
    - c. Correct posture helps one to look well and strong; incorrect posture makes one sickly looking, and keeps one from getting strong.

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* For older children.

4. Fresh air—breathing.
   - a. Fresh air—helps to build strong body.
   - b. Breathe deep to carry it to every part of the body.

*Subject Matter*

Did you have something like oatmeal and milk, bread and butter, and apple sauce too for breakfast? After breakfast is over D and A go to school. They never like to be late and allow plenty of time to walk all the way, for they know that running so soon after eating makes it hard for the stomach to work. If the stomach gets tired, it can't do all the work it has to do and we won't be strong. D and A walk to school every day. They carry themselves as straight and tall as Indians and take long deep breaths all the way, because mother says their body builders need fresh air to help them to use the food for their best work. When they get to school they sit up tall and pay such good attention to what the teacher says that all their lessons are easily and well done. Then after school they don't have to stay in or be scolded, but they have a good time playing. But some little boys and girls I know stand like this (Ill.) and sit like this (Ill. by teacher) and slouch around all day. There isn't enough room inside their bodies for fresh air, and their hearts, stomachs and lungs are crowded together like this (Ill.) and they can't do their work half as well as they should. This makes children cross and touchy. It makes them sick and helps to keep them from growing. They get scolded, and have to stay in to get lessons or fall behind in class. It is really just as easy for us to sit well and stand well as it is to slouch! Shall we all try it with D and A? Then when someone passes us on the street, they'll say "there goes a fine looking boy or girl," and father and mother and our friends will be proud of us. (Ill. with posters on posture, and personal ills. by teacher and class.)

*Lesson 6*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—Noon luncheons.*

1. Body, no eating between meals, ready for more food about 12 o'clock. Stomach rested so can do more work in preparing food for building muscles.
2. A good lunch is one furnishing enough easily digested food for growing, for working or playing, for getting and keeping strong.
   - a. (Ill.) Hot creamed vegetable soup, bread and butter and fruit. Good because
     - (1) It furnishes the best food for growing strong.
     - (2) Hot food stimulates digestion.
     - (3) Good luncheons should be eaten slowly and well chewed so as to make easily digested.
3. Bad luncheons.
   - a. (Ill.) "Hot dog" sandwich with mustard and frosted cake. Bad because
     - (1) Does not furnish enough of all kinds of food material needed for growing children.
     - (2) It is usually cold, and cold food is slower in digesting.
     - (3) It is generally taken hurriedly and is therefore not properly chewed and is hard to digest.
4. Comparison.

   (Use posters to illustrate. Let children compare. Other suggestions for good luncheons—Hot vegetable soup, also vegetables creamed, boiled, baked or escalloped, served with milk or fruit. May use milk or cereal pudding or other simple dessert in addition.)

5. Special rules for eating.
    - a. Sit down to clean table.
    - b. Eat slowly.
    - c. Chew the food well.
    - d. Rest after eating.

*Subject Matter*

(Review the perfect morning—ill. posture.) It is 12 o'clock now and time to go home to lunch! Do you suppose D and A's mother will have a piece of cheese or sausage between two thick slices of bread for lunch? No, indeed! D and A's mother knows these things are not good for growing boys and girls. She knows children need something simple and hot for lunch, something they will have time to eat without hurrying. She knows our stomachs have no teeth and they cannot use the food whole. That is why we must have good teeth in our mouths and chew our food hard and long. Here are some things children eat. (Posters.) Let us pick out the things you ought to have for lunch to make you grow. Suggestions—cardboard pictures of ham sandwiches, peanut butter sandwiches, hot dogs, hot vegetable soup, milk, cocoa, bread and butter, fruit, simple desserts of milk or cereals, or other foods characteristic of the neighborhood may be used to illustrate. Have children pick out things that will make a good lunch. Compare with other things given—for example, good lunch, hot vegetable soup, bread and butter, or peanut butter sandwich, milk and fruit. Bad lunch—hot dog sandwich with mustard and frosted cake. If you go home at noon as D and A do, your mother can make hot soup for you too, but if you live too far away to go home at noon then you can take good sandwiches and fruit in a neat little box and buy your milk in school. These lunches (referring to good lunches) help us to do our work better and make us feel like work and play all the afternoon. Then, every one is going to try to eat a good lunch every day—and don't forget to rest after eating.

### *Lesson 7*

A. *Weigh and measure, etc.*

B. *Review.*

C. *Subject—Vegetables.*

1. Kinds.
    - a. Leaf and stem—Cabbage, spinach, lettuce, escarole, celery and asparagus.
    - b. Root—Potato, beet, carrot, turnip, onion.
    - c. Seed—Beans, peas and lentils.
2. Why we need to eat vegetables.
    - a. They contain the kind of food that makes for good health and strength, such as iron to make good red blood and rosy cheeks, and lime to make good bones and teeth.
    - b. They furnish refuse to help clean the inside of the body.
    - c. They help other food to be more valuable.
3. Minimum amount of vegetables to eat daily.
    - a. One leaf or stem vegetable and one root vegetable.
    - b. Seed vegetables may be eaten sometimes in place of meat, or in smaller quantities with other vegetables.
    - c. One may eat as many more as one likes. Vegetables will do no harm.

    Sample of vegetables may be shown with this lesson.

*Subject Matter*

I hope everybody had good hot soup with some vegetables in it or some creamed vegetable every day this week. Did you? Did you eat your food slowly and chew it a long time? How many rested after eating lunch? That's good! We need a great many vegetables; most of us don't eat anywhere near enough of them. They make our blood red and give us rosy cheeks. We need vegetables like spinach, cabbage and onions and all kinds of vegetables to help the cereal do its work, so we won't have to take castor oil. D and A do not like castor oil, so they prefer to eat vegetables. Their mother gives them two kinds of vegetables every day and sometimes more. Which do you like better, castor oil or carrots and turnips and spinach and onions and potatoes? I know a little girl who didn't like vegetables. Her mother told her she would be "as thin as a needle" if she didn't eat them, so every time her mother cooked vegetables the little girl tasted a little and the next time she ate a little more until by and by she liked them so much she ate more than any one else in her family, and all because she learned to like them by eating a little bit at a time! If you don't like vegetables, won't you learn to like them as this little girl did by eating a little each time mother cooks them?

### *Lesson 8*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—Fruit.*

1. Reasons for eating fruit.
   a. Fruits are appetizers.
   b. Fruits help to keep the inside of body clean and healthy.
   c. Fruits help us to grow, give rosy cheeks, bright eyes, etc.
2. Kinds of fruit.
   a. Fresh fruit—oranges, grapes, peaches, pears, apples, bananas, berries, etc.
   b. Cooked or canned fruit—pears, apples, peaches, berries, etc.
   c. Dried fruit—apples, prunes, figs, dates, apricots, etc.
3. Ways of serving fruit for children.
   a. Raw—oranges, apples, figs, dates, etc.
   b. Stewed—prunes, apple-sauce, pears, etc.
   c. Baked—apples or bananas, etc.
4. When to eat fruit.
   a. For breakfast, luncheon or supper.
   b. Once a day if desired, half way between two meals.

(Growth, manufacture and uses of fruits may be discussed with older children.) (Samples of fruit can be shown.)

### *Subject Matter*

How many had some vegetables to eat every day this week? Eating vegetables is an excellent habit. We must eat them every day for the rest of our lives, unless the doctor tells us not to. There is something else we must eat, too—fruit. Mention the names of some fruits you know. Yes, apples, oranges, pears, peaches, grapes, bananas, etc. Did you ever notice the tiny seeds in apples, and in grapes and oranges? These little seeds will make big, tall trees, but they need food to grow and so do we. It does make us grow and gives us rosy cheeks and makes our teeth and bones nice and strong. If we eat fruit enough and vegetables and cereals we won't ever have to take magnesia or castor oil. Fruit tastes good and gives us an appetite, so that we are hungry for some of the other things we ought to eat. Fruit is something we can eat at any meal during the day—for breakfast or as a dessert for dinner or supper. And we could eat it once between two meals, but we must not eat too much. It is much better than candy or cake, don't you think so? Fresh fruit is best, but in the winter time, when fresh fruit is expensive, mother can cook prunes or apricots or other dried fruit for you. You can eat figs and dates, too. Eat some fruit every day!

### *Lesson 9*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—Out-of-Door exercise—fresh air, sunshine and play.*

1. Introduction—refer to need for fresh air and sleep (Lesson 2) and good posture (Lesson 5).

2. Value of out-of-door exercise.
   - a. Helps boys and girls to grow big and strong by helping the body builders to use food.
   - b. Helps boys and girls to keep mind and body alert.
   - c. Helps boys and girls to keep well.
     - (1) By increasing the body resistance towards disease.
     - (2) By helping to discard the waste from the body. (Reference may be made to study of bacteria in the body and outside the body, with older children.)
   - d. Helps boys and girls to be cheerful by keeping them physically well.

### *Subject Matter*

To-day we are going to learn about something we get when we play out of doors. It helps us just as much to grow big and strong and to have nice rosy cheeks and bright eyes, as fruit and vegetables and the other things we have learned about. It is something that everybody can have. What do you think it is? (Show pictures illustrating fresh air, exercise and sunshine, *i.e.,* child at play in sunshine out of doors.) Yes, it's sunshine, fresh air and play. Every day after school D and A play out-of-doors in the fresh air and sunshine, too. Arthur loves to play ball and Dorothy has fun with her dolls, and they both play tag with their friends. There cheeks get nice and red and their eyes get bright and sparkling, so that people love them and enjoy having them around. Fresh air, sunshine and play put our body builders into the best of spirits, so that they can make the best use of all the food we eat. In that way our bodies keep in good running order and we can work harder, play harder and feel happier. So let's play out of doors all we can!

### *Lesson 10*

A. *Weigh and measure, etc.*
B. *Review.*
C. *Subject—Eating between meals a bad habit.*

1. When to eat between meals.
   - a. If the doctor advises extra nourishment in case of sickness.
   - b. After one has been sick a long time, so that he needs more food to make him strong again.

2. Why not to eat between meals otherwise.
   - a. Eating between meals takes away the appetite for mealtime. (Sweet, rich food should never be eaten except at the end of a meal.)
   - b. Eating between meals tires the stomach—gives it no time to rest.
   - c. An over-tired stomach cannot digest food as well as one that is not tired.

3. Good things to eat between meals.
   - a. Fruit—dates, figs, apples, oranges, etc.
   - b. Nuts—just a few.
   - c. Milk, crackers, bread and butter.

4. Things to avoid.
    - a. Rich cakes and crullers.
    - b. Cheap colored candies and cheap ice cream.
    - c. "Hot dogs" with mustard.
    - d. Pickles.

5. Eat a between meal luncheon 3 hours before the next meal.

Note: Our problem has been the spending of pennies at the typical "hole-in-the-wall" stand for pickles, cheap candies, hot dogs and mustard, etc., instead of the hot baked sweet potato, corn on the cob, fruit, etc., which may be bought from the little traveling oven-wagons and push-carts everywhere.

*Subject Matter*

What do you do with your pennies? Do you buy things to eat? I'll venture that some of you buy bright colored candies, cakes, pickles, etc. Some of you buy apples, oranges, crackers and some chocolate. If D and A had pennies, what do you think they would buy? Yes, I think they would buy apples, oranges, milk, crackers, good ice cream or perhaps a little chocolate candy. D and A's mother won't let them buy pickles, cheap candies and cakes. Do you know why? She says that when they eat the sweet things between meals they won't want to eat at mealtime the good things that make them grow best. Sometimes cheap, bright colored candies, cakes, etc., make us sick, too. Once in a while D and A can have a little candy or cake after eating a good dinner. Save your pennies this week and buy—what? (Answer by children.) (Fruit.)

*Lesson II*

A. *Weigh and measure children. Record weights on chart, etc.*

B. *Review.*

C. *Subject—Supper—an early meal of simple food.*

1. Time to eat—5.30 to 7 P.M.

2. Have something simple and easily digested.
    - a. Body tired—needs rest, light work.
    - b. Body needs building material and energy.

3. Food good for supper.
    - a. Soup, bread and butter.
    - b. Creamed vegetables.
    - c. Milk.
    - d. Fruit.
    - e. Simple dessert.
    - f. Egg dishes.

4. Typical menu.
    - a. Soft cooked egg, baked potato, spinach, glass of milk, bread and butter, apple sauce and cookies.

*Subject Matter*

What did you do with the pennies mother gave you this week, John? Bought some apples to eat and put some into your little bank to keep? You didn't forget, did you? (Teacher asks several children in the class.) Many of you feel tired after you have been to school and played all the afternoon, and that's the way your stomach feels, too—tired. About 6 o'clock it has used up all the things that it has had to grow on and to work on, and it needs some more. It must be simple, though, so the body can grow while it rests at night, something like bread and butter and soup. Fried potatoes and coffee for supper make the stomach work too hard. Sometimes D and A have bread and milk with fruit instead of soup and bread and butter, or, if they haven't had egg before that day, perhaps mother cooks a soft egg to give them with some creamed vegetable, or junket or jelly or just fruit. That's what they had last night with some apple sauce and cookies for dessert. They generally eat early—about 5.30 (adapt time to children). Then there is plenty of time for their stomachs to take care of the food before they go to bed, so they can sleep well all night long.

### *Lesson 12*

A. *Weigh and measure children—record weights on charts and discuss them.*

B. *Review of the "Child's Good Health Day."*

1. Morning.
   a. A busy day; "hop" out of bed early and "clean up"—clean hands, clean face, clean teeth, clean bowels, clean hair, and clean clothes.
   b. Then eat a good breakfast of milk and cereal and fruit and perhaps an egg.
   c. Don't forget to stand up straight and sit up "tall" in school and out of school, all day!
2. Noon.
   a. Luncheon—of vegetables, milk and fruit, or sometimes a simple dessert.
   b. And after school is over and the work of the day is done, play for a long time in the sunshine and fresh air until—
3. Night.
   a. It is supper time! Don't eat too much! Tired and happy, just—
   b. Jump into bed early for a good long night's rest!

### *Subject Matter*

To-day you are going to tell me all the things you have been doing and that you are going to keep on doing for the rest of your lives to make you big and strong. We will start at the very beginning. What is the first thing you do when you get up in the morning? (Review cleanliness, washing hands, face, body, teeth, brushing hair, etc.—Lesson 2.) Don't you feel much better when you get all cleaned up for breakfast? (Review waste removal—Lesson 2.) After you are all cleaned up you sit down at the table with the family and eat breakfast. Why do we have to eat breakfast, anyway? (Review body's need of food—Lesson 3.) What are you going to eat? (Cereal—Lesson 4.) And what are you going to drink? Review milk, mention cocoa—Lesson 3.) What do milk and cereals do for us? (Give us red cheeks, bright eyes, good teeth, etc., because they are good foods and provide roughage.) When breakfast is over, you all go to school. Show us how you walk to school every day, John. (Illustrations by children—Lesson 5.) And how do you sit, Mary? (Ill. by children.) Why should we sit up straight? (More room in body for working of internal organs, fresh air, etc.)

At noon some of you go home to lunch and some stay at school. When you eat at school what do you have, Martha? (Review lunch—Lesson 6.)

And when you go home to lunch what does mother have for you, John? (Ill. with good lunch—Lesson 6.) Why does mother always have fruit and vegetables for you? (For growth, strong teeth, no castor oil, etc.—Lessons 7 and 8.) Then when school is over at 3 o'clock you go out and play. Why should all boys and girls play out-of-doors so much? (Out-of-door exercise—Lesson 9.) How do you spend your pennies in the afternoon, John? (Review better spending of pennies, eating between meals, etc.—Lesson 10.) And when 5 o'clock comes you are hungry and you all go home and wash up ready for a hot supper (Lesson 11). When supper is over and you have played for a while, or perhaps done your lessons or helped mother, what does everybody do? (Go to bed—Lesson 2.) What time do you go to bed, Mary? What do you do all night long? (Sleep.) Yes, everybody, little people and big people, sleep! Everybody has to have a great deal of sleep, to rest and to grow after such busy days. Yes, these are the things that D and A do, and these are the things that all boys and girls who want to grow up to be big, strong, happy men and women, must do.

### *Lesson 13*

### GRADUATION

Presentation of diplomas, ribbons, pins, or prizes for the greatest improvement and for the greatest effort. Charts may be shown with posters by the children (or not), a simple exhibit of food and health habits, and perhaps simple exercises by the children—plays, poems, songs, etc. Parents, friends and teachers may be invited, making it a very interesting and impressive, though simple exercise.

## Other Types of Group Work.

### *Little Mothers' Club*

One of the difficulties in the work is found to be inadequate diet, because the mothers do not know or have not the time to prepare proper food for children. Since they do not speak English and fail to come to group meetings at the Community House, it is difficult to teach them either in their homes or in groups. In such families some of the older girls have been taught in groups how to prepare the foods that they and their undernourished brothers and sisters should have. Only those girls between the ages of 10 and 13 who were underweight, and upon whom fell the responsibilities of the home or who had underweight brothers and sisters were admitted. At the first lesson, the girls were weighed and each girl made her own weight chart. The first lesson in each month was given over to the reweighing of the children and instruction in health habits with no cooking in the laboratory. The girls were made to feel the relation between these gains or losses and food and good health habits. The remaining three lessons in each month were spent in talking about the foods needed for growth and the ways in which these foods should be prepared to make them of most use in the body. Individual responsibility was stressed and each girl made to feel that she must practice the things learned. Comparatively little home visiting was necessary with such a group.

After work with children of school age had been discontinued, the class was turned into a Little Mothers' Club. In this district, girls from 10 to 14 are really little mothers for they assume the responsibility for the younger children while the mothers work.

In October, 1922, the first Little Mothers' Club was organized. The aim of the club was to have each member responsible for teaching and helping one pre-school child to form correct health and food habits. Girls were chosen only from families where there was special need of instruction in nutrition. The first class consisted of 14 girls, each with an undernourished brother or sister between the ages of 2 and 5 years under her care; hence the name "Little Mothers' Club." The aims of the club were (1) to learn the best way to keep well, to help the brothers and sisters to keep well, and (2) to acquire these good health habits.

Once a month the members of the club brought their "charges" to class, weighed, measured, and marked and compared charts. At this lesson a health story was told and especial emphasis placed on the health habits. The lessons were planned to emphasize the value of milk, and the value and use of vegetables, fruit and cereals. Special emphasis was placed on the danger of cheap candy and cakes such as are found in the neighborhood. Very little time was spent on the cooking of the food, but as much time as possible was spent on the value of proper foods for the growing child.

Such interesting results were obtained from these classes that for this district they seem more worth while than the classes with the mothers. One of the mothers said to one of the nutrition workers one day: "Teacher, my Rosie she no drink no more coffee; all the time milk, milk, milk." Another girl persuaded all her younger brothers and sisters to substitute milk for coffee. She also got them to bed early and arranged for an airing each day. Two girls arranged for dental care for their brothers and sisters. All demonstrated the making of the food at home to parents and neighbors.

The gains made by the pre-school children over a period of 14 weeks were as follows:

| | *Expected Gain* | *Actual Gain* | *% of Expected* |
|---|---|---|---|
| Group I* ...... | 7.72 pounds | 9.75 pounds | 126.3 |
| Group II....... | 7.7 " | 12.0 " | 155.0 |

The gains made by the "Little Mothers" themselves were as follows:

| | *Expected Gain* | *Actual Gain* | *% of Expected* |
|---|---|---|---|
| Group I* ...... | 8.8 pounds | 18.75 pounds | 213. |
| Group II........ | 21.4 " | 27.5 " | 128. |

---

* Fewer lessons in Group I.

The club voted to pay weekly dues of 5 cents each to help pay for the food used. One girl was elected treasurer to collect the dues and another was made secretary to check the attendance.

The Cost of Group II was as follows:

| | | |
|---|---|---|
| Enrollment | | 12 |
| Number of lessons | | 14 |
| Total cost of food | $4.59 | |
| Received from dues | 3.58 | |
| Cost of food to the A. I. C. P | | $1.01 |
| Hours spent in preparation and actual work in class | 35 | |
| Cost of time | | 22.65 |
| Total cost of course to the A. I. C. P | | $23.66 |
| Cost per class per lesson | | 1.69 |
| Cost per child per lesson | | .14 |

The outline of the lessons taught was as follows:

*Lesson 1.* Aim of the Club was emphasized. Sleep, rest, cleanliness and food stressed. Children weighed.
*Lesson 2.* Cocoa and toast prepared; use of coffee discouraged. Setting the table emphasized so that regular meals may be encouraged.
*Lesson 3.* Cereal and fruit.
*Lesson 4.* The pre-school children brought in for reweighing. A health story told.
*Lesson 5.* A simple luncheon for the pre-school child but suitable for the other children also; milk, potatoes, bread, apple.
*Lesson 6.* Vegetables for lunch. Vegetables, bread and butter, and fruit.
*Lesson 7.* Molasses peanut candy for Christmas. Stress candy only after meals and home made candy in preference to cheap candy.
*Lesson 8.* The pre-school children brought in for reweighing.
*Lesson 9.* Spinach, baked potato, soft cooked egg, fruit.
*Lesson 10.* Christmas party such as they have at home with proper things to serve.
*Lesson 11.* Spanish rice, bread and butter, fruit.
*Lesson 12.* Creamed onions or buttered carrots, mashed potatoes, meat balls, baked apples.
*Lesson 13.* Reweighing and measuring of the children.
*Lesson 14.* What to serve at a party. (Simple cakes, cocoa and fruit emphasized to replace rich food usually served.)
*Lesson 15.* Examination.

At the end of the series of lessons a few questions were given them to answer in writing. The following is a list of the questions with the answers from one paper:

*Question*—How much milk should every child drink every day?
*Answer* —We should drink four glasses every day.

*Question*—What does milk do for us?
*Answer* —Milk has lime in it which is good for the teeth.

*Question*—Name four foods that are good to eat between meals.
*Answer* —Fresh fruit, prunes, raisins, and dates.

*Question*—What have you taught your pre-school child?
*Answer* —I have taught her to drink lots of milk, eat vegetables and eat oatmeal.

### *Posters and Poster Clubs*

The poster has proved to be a very valuable means of getting the message of nutrition into the neighborhood. It develops the kind of interest that the rest of us get through the magazines, public meetings and demonstrations.

At first the posters were made by the workers for the sake of emphasizing special facts that were being given in nutrition classes. Then at the request of one of the principals a set was left in one of the schools so that the teachers might give health talks to all the children in the school. Gradually the workers found them useful in talking to large groups and in clinics where mothers and fathers were waiting their turn to have the children examined. The nutrition worker found it time consuming to make as many as were needed, but they were far too useful to abandon. Therefore it was decided to have a poster class in which the children should make the posters to be used for the work.

There was already a scrapbook class in the social activities of the Community House which met once a week to paste pictures of all kinds in notebooks. From this a class was formed to make posters emphasizing good food and health habits. At each lesson the value of the health rules thus graphically represented was discussed.

The purpose is to lend for a week at a time as many posters as possible to schools and clinics. Some of the posters are used in the English classes for Italian mothers at the Community House. Thus they are learning to speak our language and at the same time absorb some of our health ideals. In this way they may learn to associate health with America as did one little boy who when asked if he knew where the Community House was replied, "That is where they teach America."

The latest development is cooperation with the storekeepers whereby posters are provided which feature any one of a list of special foods which we feel should be encouraged in the community.

One teacher can supervise not over ten girls in one class, as good material goes to waste with insufficient supervision.

# SECTION IV.

## Reaching the Mothers in Groups

### *Mothers' Groups—In a Tenement House*

Whenever a demonstration was to be given at one home each woman was urged to invite her neighbors, until a class of five to nine women was sometimes organized. Each mother usually brought one or two malnutrition pre-school children. At times there were large attendances of women and their many children, but such attempts have met with varying degrees of success. On one occasion there were eight women and twenty-two children. These meetings rotated from one woman's home to another, so that at the end of the term each woman had had the meeting at her home at least twice.

Children were weighed each week. Each child had a weight chart, and the mothers watched the weight curves of their children as eagerly as do the school children. Very often a mother would be noticed quietly comparing the weight curve of her child with that of her neighbor. Four of these classes organized in different tenements have been held effectively. They serve to get the woman in the tenement, who seldom goes out except to "buy," interested in the health of herself and her children.

One of the workers succeeded in getting eight mothers to attend quite regularly a class held in the home of Mrs. S., an American, living in the neighborhood.

The mothers were referred by the nurses in the district. The class was held weekly from February 8, 1922, to May 24, 1922. There were 14 lessons with an average attendance of 5. Births of new babies, illness at home, or bad weather were the only things that kept them from coming.

The mothers were taught infant and child diets, diet in constipation and diarrhea, and the best kind of meals to suit the needs of both the adults and the children, including the preparation of cereals, vegetables, and ways of serving milk. The mothers usually prepared the foods taught. The pre-school children were brought to class and appropriate foods prepared were given them. The difference between American and Italian ways of cooking were discussed, the mothers sometimes demonstrating Italian methods. English words of the materials and utensils used were always emphasized.

Two lessons in pre-natal care and one in emergencies and everyday hygiene were taught by the nurse.

Cost of the group work is as follows:

| | |
|---|---|
| Enrollment | 8 |
| Number of lessons | 14 |
| Total cost of food and gas | $7.17 |
| Cost per lesson of food and gas | .512 |
| Cost per person per lesson for food and gas | .064 |
| Workers' time (at $.647 per hour) 3 hrs. per lesson—52 hrs. | 33.64 |
| Total cost for 14 lessons | 40.18 |
| Total cost per lesson | 2.87 |
| Total cost per person per lesson | .36 |

### *Mothers' Club at Mulberry Health Center*
### *Nutrition Worker and Nurse Cooperating*

One group composed of twelve fairly intelligent women from the district met at the Health Center, the nurse and nutrition worker co-operating. The purpose of the club was to talk over home problems common to all and to make home life easier, healthier and happier. These women were encouraged to take back not only to their families but to their neighbors what they had learned through the club.

The nutrition worker discussed regular food habits, invalid diet, prenatal diet, infant feeding, diet for constipation and diarrhea; health habits, cleanliness, sleep, rest, exercise, and outdoor play. A nurse assisted with lessons on prenatal care, infant care, and emergency hygiene, covering colic, convulsions, croup, cuts, burns, adenoids and tonsils. The final lesson was devoted to the problem of making the best of one's opportunities and spreading good among the neighbors. The women were interested in the club to the last lesson, and attended regularly.

The club met once every two weeks for a series of twelve lessons. At each meeting tea was served.

# SECTION V.

## General Community Work

## A Nutrition Drive

*Good Nutrition for all the People*

*or*

*An attempt to tell* 32,000 *people how to prevent malnutrition*

There are approximately 32,000 people, including about 14,000 children, in this district where we are trying to demonstrate the effectiveness of a nutrition program in connection with a Health Center.

At the end of four and a half years not over 3,000 children have been reached, or between 650 and 700 children a year. At this rate it would take at least 20 years to reach every child. This is obviously as impractical as a general educational program in this district would have been impossible five years ago. But with the intensive work as a background, it is felt that less intensive work is now feasible.

Some general educational work has been included as a regular part of the program for the last two years, but in the fall of 1923 the amount of visiting was reduced 75 per cent to allow for more time in which to reach larger groups.

The present plan is as follows:

1. The following twelve points were selected as fundamental in good nutrition. They are called Twelve Steps to Good Nutrition:

    I. Drink milk.
    II. Fresh air and sunshine are good tonics.
    III. Eat two vegetables every day.
    IV. Go to bed early.
    V. Eat some fresh fruit every day.
    VI. Eat dark bread and cereals.
    VII. Use water freely.
    VIII. Observe regular habits of eating, sleeping, and cleanliness.
    IX. Exercise.
    X. Stand tall, sit straight, breathe deep.
    XI. Have a physical examination.
    XII. Keep smiling.

2. Two points each month are used as the basis of all educational work.
3. Every other worker in the district, and every teacher in the schools, is asked to emphasize these same points throughout this same month.
4. Posters are made in which these facts are stressed. They are distributed throughout the neighborhood.

5. Items about the work appear in the newspapers each month, to which a group of people well known in the neighborhood allow their names to be attached. They are: a prominent banker, a priest, a principal of a school, a doctor and a dentist—all Italians—and a social worker.
6. Some member of the nutrition staff talks for five to ten minutes each month to each organized group in the district, including the schools and mothers', fathers', boys' and girls' clubs. Slides, posters and charts are used.
7. Slides, posters, exhibits and graphic material of various kinds are made as a means of attracting attention while the good nutrition habits are being stressed.
8. Slides prepared by the A. I. C. P. are shown at the Moving Picture theaters in the district.

A program for one month was as follows:

*Nutrition Program for January—Mulberry Health Center*

| | |
|---|---|
| *Mondays:* | |
| 3:00 P.M. | Health Players, M.H.C. |
| *Tuesdays:* | |
| 5:30 P.M. | Girls' Supper Club, M.H.C. |
| *Wednesdays:* | |
| 3.30 P.M. | Health Poster Class, M.H.C. |
| *Jan. 3*—2:30 P.M. | Mothers' Home Club at home of one of the mothers. |
| *Jan. 16*—1:00 P.M. | Two talks in St. Patrick's School for Girls. |
| *Jan. 23*—3:30 P.M. | Talk and presentation of Play "Wizardry of Milk" to Girls' Club, M.H.C. |
| *Thursdays:* | |
| 10:00 A.M. | Talk to Pre-Natal Group, M.H.C. |
| 3:30 P.M. | Health Poster Class, M.H.C. |
| *Jan. 4*—2:30 P.M. | Mothers' Home Club at home of one of the mothers. |
| *Jan. 10*—8:00 P.M. | Talk and presentation of Motion Picture "The White Bottle" to Fathers' Group, M.H.C. |
| *Jan. 17*—9:00, 9:45 11:15 A.M. | Three Stereopticon Talks to Assemblies P. S. 21. |

| | |
|---|---|
| *Jan. 24*—9:00 A.M. | Two talks to Assemblies, P. S. 106. |
| *Jan. 24*—9:00 A.M. | Two talks to Assemblies in St. Patrick's School for Boys. |
| *Jan. 24*—2:30 P.M. | Mothers' Home Club at home of one of the mothers. |
| *Jan. 24*—3:30 P.M. | Talk to Mothers' Group, M.H.C. |
| *Fridays:* | |
| *Jan. 25*—8:15 P.M. | Talk to Boys' and Girls' Groups, M.H.C. |
| *Saturdays:* | |
| 10:00 A.M. | Health Poster Class, M.H.C. |
| *Jan. 5*—10:30 A.M. | Talk to Boys' Group, M.H.C. |

(About 5,000 people are reached each month.)

## A Description of Some of the Individual Features of the General Nutrition Drive

### *The Twelve Steps to Good Nutrition*

The twelve points selected as fundamental in good nutrition are called "Steps." As each new step is emphasized, some appropriate picture to represent it is pasted on to a series of 12 steps previously drawn on a large sheet of cardboard. The chart with the "Steps" is left in the school and more pictures added as new "Steps" are discussed each month.

### *Slides*

Four sets of slides have been prepared. Set I is planned to appeal to children from 6 to 12 years of age. Set II is adapted to girls from 12 to 17 years, Set III to boys from 12 to 17, and Set IV is suitable for mothers.

> *Set I* contains pictures that emphasize the joy of good health as a result of following good food and other health habits. They are made to appeal to children.
>
> *Set II* was prepared with the girl between the ages of 12 and 17 years in mind. An appeal to personal appearance is made very strong and the results that will follow attention to proper food and good health habits.
>
> *Set III* for boys between 12 and 17 years has been arranged to appeal to strength, physical endurance, championship in sports, and manliness. Good habits are emphasized as training rules for athletes.
>
> *Set IV* is for mothers and emphasizes the care and proper feeding of the pre-school child.

### *The Vanity Case* and the Pirate's Ship*

*by*

*Mrs. Margaret Covell Kinne and Miss Edna Hall*

A request from the Speakers' Bureau of the Red Cross came for talks in a continuation school to 6 groups of girls from 15 to 17 years of age. Each group numbered from 200 to 400 and they were reported as being difficult to interest.

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* Adapted from the American Child Health Association leaflet.

All methods of approach ordinarily used with girls under 14 years were discarded as probably meeting with failure. In their stead two sets of posters, representing a true vanity case and a false vanity case were devised. Personal appearance was used as the goal, but health was its foundation. Each article in the true vanity case was a good health or food habit that would improve or develop an attractive personality. The false vanity box was filled with the proverbial late hours, ice cream sodas, scanty lunches, coffee, candy, etc., which rob a girl of her health and charm. The principal and teachers said that the girls were unusually attentive and since then these same posters have served in many similar talks.

For boys of this same age a series of posters called "The Pirate Ship" was prepared. Sections from "Treasure Island" afforded familiar illustrations.

### *The Ark of Health*

*by*

*Louise L'Engle*

The Ark of Health, designed from cardboard, has been used with older boys and girls to discuss the thing necessary for a "Safe Voyage on the Journey of Life." Objects necessary for the voyage were also made out of cardboard and arranged to stand on the table.

### *The House That Health Built*

*by*

*Edna Hall*

The House that Health Built, similarly constructed, takes the child through the various rooms of the house and graphic demonstrations of the good nutrition habits pertinent to each one.

### *The Use of Stores in the District*

The storekeepers are willing to cooperate to the extent of displaying posters in their windows or in prominent places inside the store. The posters are made by the poster classes and pertain to the foods being emphasized.

The managers of the milk stores, seven in number, all say that their sales have increased, though not all of them can give exact figures. One dealer produces figures showing that his sales have doubled in one year. He is very confident that the increased sales are due primaily to the influence of the Health Center.

### *Health Exhibit*

In April, 1921, the nutrition division of the Health Center held an exhibit for one week. It was open every afternoon except Saturday, and two evenings. The main features were exhibits of posters on health habits; the weighing of children to stimulate interest, informal talks to groups of mothers and children; an exhibit of foods for children of from one to three years of age; and a table containing foods that should be eaten every day, with demonstrations of the preparation of cocoa, oatmeal, spinach and other vegetables.

The exhibit was well attended. The two evenings were given over to talks to men. Men from the club activities in the Community House came and brought with them two interpreters, leaders of the clubs, who explained to them what was being done. The interest of the men was gratifying. Their attendance was felt to be one of the most valuable features of the exhibit, as the men are the rulers in the Italian household.

### *Health Carnival*

During the week of July 17 to 22, 1922, a health carnival was held at the Mulberry Health Center, by both nurses and nutrition workers. The house was open to all people of the district from 9 A.M. to 10 P.M. The nutrition division took charge of the nutrition aspect and planned their program for the week as follows:

I. For Children

- A. The morning from 9-12 A.M. was devoted to groups of children.
  - 1. Health talks and stories, emphasizing a different food each day, were given.
  - 2. A poster-making contest was held. This followed one of the health talks, each child making a poster on ideas gathered from the talks. Prizes for the best posters were given Saturday afternoon—one to the boy, and one to the girl, making the best poster.
  - 3. Health guessing games were held.
  - 4. Health rhymes were made by children. This was not successful from the standpoint of rhymes, but proved interesting to the children.
- B. Physician examined as many of the five-year-old children in the district as could come to the Center. The nutrition workers and nurses referred children to the clinic, but many mothers brought children without notification. (This was the beginning of the nursing bureau's plan for physical examination of all five-year-old children, in an effort to get them in better physical condition before entering school.) A nutrition worker talked to the mothers in the clinic. Prizes were awarded at the end of the week to the two children in the best physical condition.

II. For Women

- A. The afternoon from 1-5 P.M. was spent with the women.
  - 1. There was an exhibit of especially important foods.
    A nutrition worker explained the exhibit.
    - a. Foods good for small children, with especial emphasis on rickets.
    - b. Three meals, breakfast, dinner and supper, laid out on table.

    Food posters were used in connection with these exhibits.
  - 2. Informal talks to mothers each afternoon.
  - 3. Mary Gay Theater in assembly one afternoon. Performance attended by mothers of the children.

III. In the evening from 7:30 to 10:00 o'clock.

- A. There were informal talks to men and women.
    1. Same food exhibit as shown in the afternoon was explained.
    2. One "Food for Health" talk was given in the assembly on Tuesday night.

### *Checking Results*

Theoretically the general educational work should be more practical. Nevertheless it is going to be very difficult to check results to show accomplishments.

If, however, the neighborhood becomes interested and talks about the importance of nutrition—an idea now new to most of them—something will have been gained.

The amount of milk and cereals should be considerably increased. Vegetables and fruits are pretty generally used already, and since they are sold from push carts, it would be very difficult to approximate any returns on them.

Eventually, the per cent of malnutrition in the children examined at the Health Center should be decreasing. But since it takes several years for general educational work to show results we shall "sow our seed in faith believing."

### *Nutrition Work a Constructive Social Measure*

This demonstration was started in an untouched field where "good nutrition" was unheard of and sickness considered inevitable. Through direct contact with about 3,600 children there is slowly growing an appreciation of and a desire for good nutrition and a normal physical condition throughout the whole demonstration area. The children that have acquired good food and other general health habits are helping others. By decreasing the percentage of those who are likely to become disabled and thereby a responsibility of the Community, one of the fundamental and very far reaching principles in constructive social work is being established.

# ACKNOWLEDGMENT

The success of the work has been due to the combined efforts of a group of efficient people. The work received a splendid start under the enthusiastic leadership of Miss Mary Harper in charge of it from June, 1918, to June, 1920. It was re-organized and further developed by Mrs. Reba Reed Kreidler from September, 1920 to September, 1922. Miss Gertrude Preische supervised the work from September, 1922, to September, 1923, and summarized the data for the report. Miss Bertha Holman is now developing the general educational program.

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